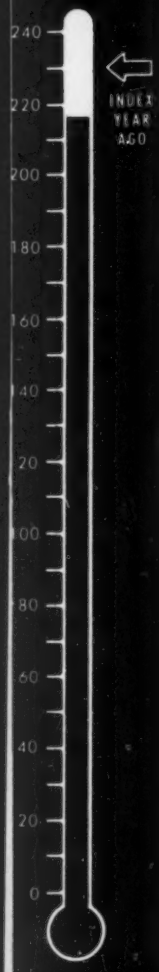
BUSINESS WEEK

WHAT ARE THE
Colors That Pull
PAGE 66



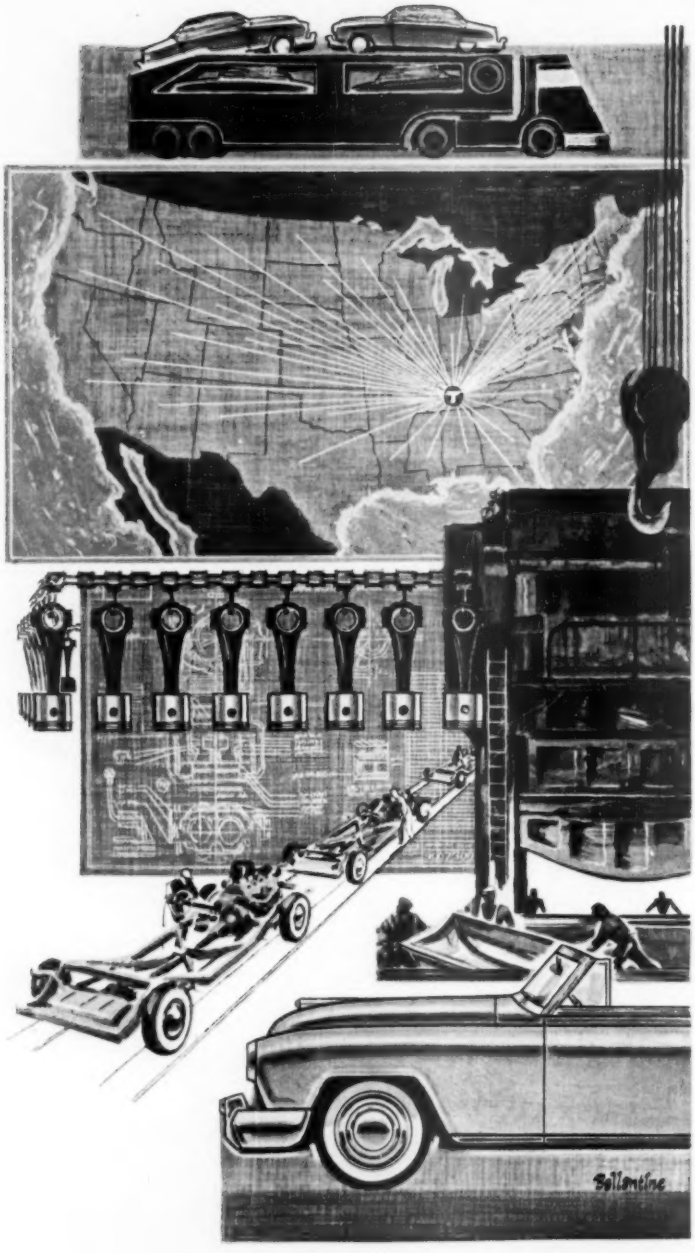
Lueloff (left) and Krueger of Power Products: Heavyweights in lightweight engines (page 104)

A McGRAW-HILL PUBLICATION

JULY 12, 1952

TWENTY-FIVE CENTS

THERE'S A TOUCH OF TENNESSEE IN MICHIGAN AUTOMOBILES



Michigan makes more automobiles than all the rest of the world. These vast plants which have taught the world the meaning of mass production use many products from TENNESSEE . . . pig iron and ferro alloys for castings and sheet steel, Plasticizers for plastics, Methanol for paint solvents used in lacquered finishes, and many more.

Industries across the nation use basic materials from TENNESSEE. That's why TENNESSEE is known from Coast to Coast as an industry serving all industry.

TENNESSEE
PRODUCTS & CHEMICAL
Corporation
NASHVILLE, TENNESSEE

Producers of: FUELS • METALLURGICAL PRODUCTS • TENSULATE BUILDING PRODUCTS • AROMATIC CHEMICALS WOOD CHEMICALS • AGRICULTURAL CHEMICALS

RESEARCH KEEPS **B.F.Goodrich** FIRST IN RUBBER

Photo courtesy Blackwell Burner Co., San Antonio, Texas.

Fighting a drought with fire

A typical example of B. F. Goodrich improvement in rubber

CATTLE used to starve to death until fire came to the rescue. Desperate for food during the dry season, they'd eat prickly pear cactus, thorns and all. The sharp spikes caused swollen, infected mouths. Soon the cattle couldn't eat at all.

Then a flame thrower was built that could burn off the needles in a few seconds. The spitting fire is made there at the end of the pipe — fed by kerosene or gasoline carried through rubber hose from a tank.

But a hose was needed that would be strong enough to stand the pressure, flexible enough to take constant bending, rugged enough to handle the kerosene without rotting the inside, causing flaking of rubber that would clog the burner. B. F. Goodrich engineers, who had designed more than 1,000 kinds of hose, had already developed a hose that was right for the job.

They found a way of reinforcing the hose with strong cords that stand over 5 times the pressure needed to shoot the flame. They developed an oil-resisting rubber for the inside that won't rot or weaken. And for good measure, they made a rubber cover that can stand constant flexing, yet is strong enough to resist scorching sun.

This hose is a typical B. F. Goodrich improvement — an improvement that saves money, does jobs better for industries of all kinds. It's the result of day-by-day research and it's a good reason for you to get in touch with your local BFG distributor when you need industrial rubber products. *The B. F. Goodrich Company, Industrial & General Products Division, Akron, O.*

B.F.Goodrich
RUBBER FOR INDUSTRY

At the Netherland Plaza they serve an average of 3,000 persons each day from Gas Kitchens equipped with the following Gas Cooking Tools—

- SIX BROILERS
- TWENTY-FIVE RANGES
- TWO FRYERS
- ONE GRIDDLE
- ONE STEAM TABLE
- FOUR COFFEE URNS
- ONE CONFECTIONERY STOVE

some GAS *cooking facts*

about CINCINNATI'S NETHERLAND PLAZA KITCHENS

as told by Chef PIRON

and Catering Manager ELSNER

This array of gas cooking equipment is producing a large volume of highest quality food; it is a story best told by Catering Manager Elsner and Chef Piron.

MR. ELSNER—"Economy of Gas Cooking is certainly important at the Netherland Plaza because our Gas Kitchens supply five restaurants, two banquet halls, twelve private dining rooms, an employees cafeteria, and the usual room service requirements. But fast broiling with GAS is especially important because we broil all type of meat, poultry, and sea food; we know that we can obtain any broiling temperature instantly so that vitamins and flavor are retained by quick searing and charring. *We can't get results like that from any other type of cooking equipment.*"

CHEF PIRON—"Our Gas Cooking Equipment is not new, yet it serves us well—without breakdowns and without long hours of labor to keep it clean and efficient. We do a vast amount of roasting of meats and poultry and our automatically controlled Gas Ovens assure us maximum return on all types of roasted meats and fowl. *1952 is my fortieth year of cooking with GAS, so I've* had plenty of chance to find out which fuel is best for every purpose."

Thousands of chefs, food supervisors, catering managers, dieticians, and others engaged in cooking and food service have plenty of Gas Cooking Facts to support Chef Piron and Catering Manager Elsner. Ask your Gas Company Representative for names and locations of those nearby.

AMERICAN GAS ASSOCIATION • 420 LEXINGTON AVE., NEW YORK 17, N.Y.

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Allison has delivered 10,000 Tank Transmissions for National Defense!

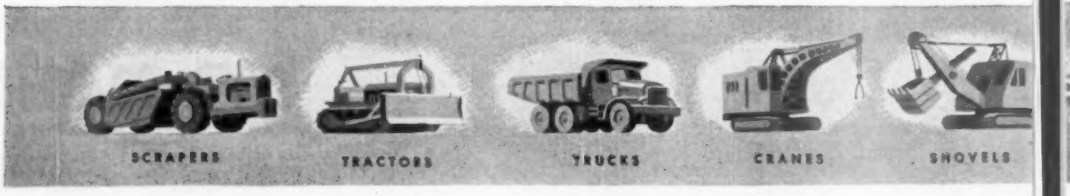
TODAY, less than three years after the first production delivery, Allison has built and shipped 10,000 Torqmatic Transmissions for Army Ordnance vehicles.

These revolutionary cross-drive transmissions resulted from General Motors' long experience in the manufacture of heavy-duty transmissions and torque converters. They provide great mobility, maneuverability and easy control to America's tanks and other track-laying vehicles. Hydraulic gearshifting, steering, braking are combined in a single, compact unit. Operators in Korea say that tanks with these transmissions can "stop on a dime" and spin in their own length, with minimum driver fatigue.

Commercially—

Today, Allison continues to deliver to commercial manufacturers Torqmatic Converters and Transmissions using the same basic principles. The Allison Torqmatic Drives bring smoothness, flexibility and economy never before experienced to many types of heavy-duty equipment such as are shown below. Write for information.

ALLISON DIVISION OF GENERAL MOTORS, *Box 894, Indianapolis 6, Indiana*



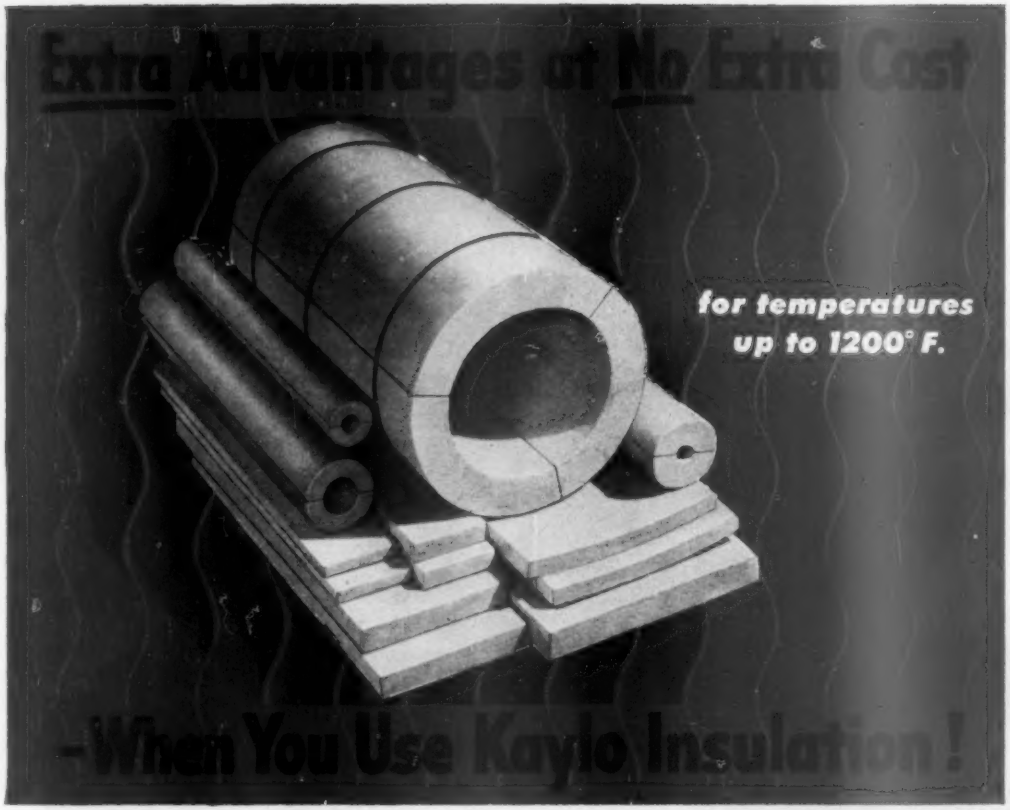
Illustrated is General Patton tank with cutaway view of Model CD-850 Allison Torqmatic Transmission

GM
GENERAL MOTORS

Allison

TORQMATIC DRIVES

Extra Advantages at No Extra Cost



—When You Use Kaylo Insulation!

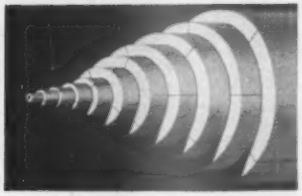
For example, Kaylo Heat Insulation reduces inventory requirements because:

1. Wide effective temperature range —up to 1200° F.—eliminates the need for combination coverings in nearly all operating conditions.
2. Simplified Dimensional Standards allow nesting.
3. Unmatched selection of shapes and sizes reduces the number of pieces required per job.

Kaylo Heat Insulation reduces installation costs because:

4. The material is lightweight, strong and easily handled.
5. It is easy to cut and fit with standard tools.

Kaylo Heat Insulation is a hydrous calcium silicate—the heat-saving material that is revolutionizing insulation practice with its outstanding combination of advantages. Get all of the facts now.



Simplified Dimensional Standards mean that O. D.'s of insulation correspond to O. D.'s of standard pipes, assuring proper fit for nesting, when necessary. With this system of snug nesting, Kaylo Heat Insulation assures fits for all operating conditions, requires less items—reduces inventory stocks.

WRITE FOR FREE BOOK—"Kaylo Heat Insulation." Address: Dept. N-321, Owens-Illinois Glass Company, Kaylo Division, Toledo 1, Ohio.

KAYLO®

... first in calcium silicate

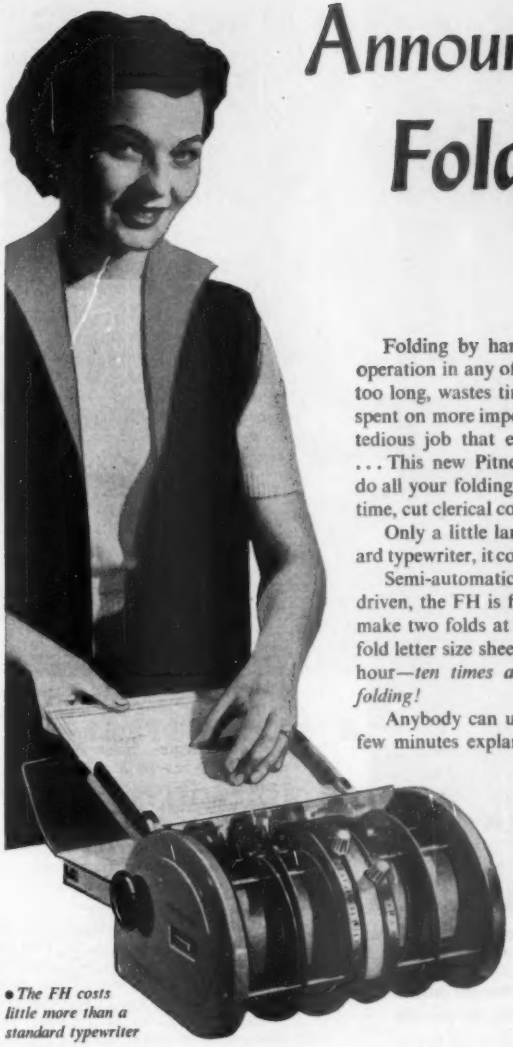
...pioneered by OWENS ILLINOIS Glass Company

MAIN OFFICE: TOLEDO 1, OHIO — KAYLO SALES OFFICES: ATLANTA • BOSTON • CHICAGO • CINCINNATI • CLEVELAND • DETROIT HOUSTON • MINNEAPOLIS • NEW YORK • OKLAHOMA CITY • PHILADELPHIA • PITTSBURGH • ST. LOUIS • WASHINGTON

Announcing *a really small, low-cost*

Folding Machine

for the office . . .



• *The FH costs little more than a standard typewriter*

Folding by hand is a high cost operation in any office today . . . takes too long, wastes time that should be spent on more important work. It's a tedious job that everybody resents. . . . This new Pitney-Bowes FH will do all your folding, save temper and time, cut clerical costs!

Only a little larger than a standard typewriter, it costs but little more!

Semi-automatic, and electrically driven, the FH is fast, accurate; can make two folds at once, will double-fold letter size sheets up to 5,000 per hour—*ten times as fast as manual folding!*

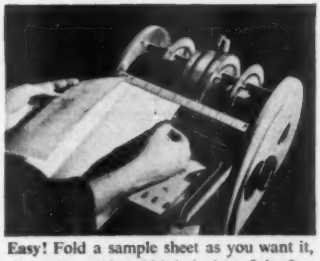
Anybody can use the FH after a few minutes explanation. You set it for any job by just moving two knob indicators on the scales, for the widths of the folds wanted.

The FH takes very little desk space; is portable, and can easily be carried to wherever it's needed. Makes eight standard folds, in various paper weights, sheets as large as 8½ by 14 inches, as small as 3 by 3 inches!

THE FH takes only a minute to set up, can be used profitably on even small jobs. It's a great convenience—in the shop and factory, as well as the office. And it quickly pays for itself . . . Ask the nearest Pitney-Bowes office to show you—or send the coupon for a free illustrated brochure.

PITNEY-BOWES
Folding Machines

Made by Pitney-Bowes, Inc. . . originators of the postage meter . . . 93 branch offices, with service in 199 cities.



Easy! Fold a sample sheet as you want it, then measure the width in inches of the first and second folds on the metal rule, then . . .

Move indicator knobs on the inch scales to set the FH for the wanted widths of the first and second folds . . . and it's ready to go!

PITNEY-BOWES, INC.,
1439 Pacific Street,
Stamford, Conn.

Send free booklet on Folding Machine to:

Name_____

Firm_____

Address_____

READERS REPORT

Shocked! Shocked!

Dear Sir:

I was shocked by your report on page 17 of Business Outlook of your June 21, 1952 issue of BUSINESS WEEK *regarding auto manufactures which reads as follows: "Ford is realizing a postwar dream. Sales have pulled even with or maybe a mite ahead of Chevrolet." I am proud to say that I believe you are sadly misinformed. I would like to quote the June 23, 1952 issue of Automotive News . . . which gives registrations for four months plus five states for May—"Chevrolet 282,635 units registered, Ford 233,108 units registered." The same issue of the newspaper gives the following production figures from Jan. 1, 1952—"Chevrolet 438,657 units produced, Ford 343,364 units produced." As far as I can see the only correct item in your report on this matter is the use of the word "dream"—they are certainly dreaming.*

Sincerely yours,
JOHN G. KIEFER, VICE-PRESIDENT
CITY CHEVROLET COMPANY
BALTIMORE, MD.

Dear Sir:

. . . I was quite shocked to read, in your June 21st issue the following article on page 17: "Ford is realizing a Post War Dream. Sales have pulled even with or maybe a mite ahead of Chevrolet." There are no figures available to substantiate this quotation. . . .

Yours very truly,
C. LAMAR CRESWELL, PRESIDENT
BELAIR ROAD CHEVROLET CO., INC.
BALTIMORE, MD.

• This is a case where it all depends on which figures you look at. For the year to date, Chevrolet is well ahead of Ford. However, the reference in BUSINESS WEEK was to April. For the first 27 states reported by R. L. Polk, the standing was Ford 41,249 and Chevrolet 41,103. Those actually were the figures on which we based our remark. For all states, reported later, the April tally was Chevrolet 75,695 and Ford 73,311. Compared to Chevrolet's 38% lead earlier in the year, this is pretty close to neck-and-neck. So far for May we have reports from only five states. If these are representative, Chevie is back in front. Those five states show: Chevrolet 8,584 against Ford's 6,943.

Wise Warriors

Dear Sir:

The publication in the June 21st issue of BUSINESS WEEK *of the pictorial*

AIRFEEDRILLS BLAST PRODUCTION ESTIMATES

AN APPLICATION OF KELLER AIR TOOLS

Here is the way one manufacturing plant put hole drilling on a mass production basis.

They had taken a contract to make half a million parts of 24ST aluminum, each of which required 12 accurately drilled holes. The drilling fixture set up to handle this job is shown above.

It consists of a specially designed fixture on which were mounted 8 Keller Airfeedrills. Four of the Airfeedrills were fitted with dual spindles to drill two holes at once. As the workman presses a control pedal, all 12 drill bits start simultaneously —advancing, drilling, retracting, and stopping automatically.

When they planned the fixture, the most optimistic estimate was that a fast operator might learn to drill 6 or 7 pieces a minute, thus obtaining average production of about 300 an hour.

But when actual drilling began, they were amazed to find that all advance production estimates would have to be revised upward. Today, the operator can drill up to 20 parts a minute. In an 8-hour day, he drills about 5,000 parts—600 or more an hour —including time out for bringing up parts, disposing of drilled ones, and keeping the fixture clear of drill chips.

The manufacturer tells us that other equipment considered for the job would have required 3 times the floor area, 4 times the investment, and could have been used for nothing else. The Airfeedrills can be removed instantly and attached to other drilling fixtures when needed.

The Airfeedrill is just one of many Keller Air Tools that save production time and costs.

Air Tools engineered to industry

KELLER TOOL COMPANY, GRAND HAVEN, MICH.

AIR MOTORS • AIR HOISTS • AIR HAMMERS • COMPRESSION RIVETERS • GRINDERS • DRILLS • SCREW DRIVERS • NUT SETTERS

and news story of the Industrial College of the Armed Forces points up the importance and timeliness of its educational program. I am sure that your readers will be reassured to learn that senior officers of the services are gaining a broad appreciation of factors conditioning the production of military equipment and the strength and stability of the supporting economy. . . BUSINESS WEEK's articles frequently parallel and provide excellent authoritative reference material for our course. In this case you have rendered a reciprocal service by providing information regarding its activities to the segment of the public most intimately concerned with the areas of its studies.

Sincerely yours,
W. McL. HAGUE, REAR ADMIRAL, USN
COMMANDANT
INDUSTRIAL COLLEGE OF THE ARMED FORCES

The B School (continued)

Dear Sir:

I also read with interest your May 31st article on "The Harvard Business School," page 66; however, I was more interested in Mr. Norman E. Deimling's letter to the Editor in the June 21st issue in which he stated he envied anyone who has had the opportunity to take the course. Perhaps there are many who share the same view. . . and in that case I would like to make a recommendation that in my opinion the next best substitute for the course is reading a book titled "How to Develop Your Executive Ability" by Mr. Daniel Starch. The author is a former lecturer and Professor in the Graduate School of Business Administration of Harvard.

Very truly yours,
JOHN C. DOWNING,
PRODUCT ENGINEERING
THE CARBORUNDUM COMPANY
NIAGARA FALLS, N. Y.

Dear Sir:

I was surprised and sorry that you failed to mention a class which runs concurrently with the A.M.P. It is called the Harvard University Trade Union Program. Unions send their representatives to an intensified 13-week session, in order to develop leadership in union administration and responsible trade union leadership.

Sincerely,
JOSEPH P. O'DONNELL
BUILDING SERVICE EMPLOYEES' INTERNATIONAL UNION

Letters should be addressed to Readers Report Editor, BUSINESS WEEK, 330 West 42nd Street, New York 36, N. Y.

How to keep your powder dry

–laminate with Pliofilm

SUCH products as powder, dry yeast and soup mix are extra-sensitive to moisture. They require special packaging treatment to keep moisture out.

The best answer to this kind of problem—as many manufacturers have discovered—is to combine foil, paper or other film with PLIOFILM—Goodyear's air-, moisture-, liquid-proof film.

PLIOFILM is thin, lightweight, laminates easily with other materials. It's strong and rugged, highly resistant to tearing, splitting or flexing. It affords a positive "welded" heat-seal, making possible a moistureproof, gasproof package.

And just look at these other PLIOFILM advantages. They make it a standout for meat, cheese, produce and a wide variety of applications:

PLIOFILM *has dimensional stability, doesn't pucker or shrink. It is hard to tear, split or puncture—won't shatter or run. Because it's so strong and durable, it eliminates repackaging, gives lasting protection. Its sparkling transparency adds luster and sales appeal to the package.*

PLIOFILM is adaptable to all types of machine packaging. It also heat-seals readily with hand tools in packaging at store level.

Want to hear more? Fill out the coupon below and we'll mail you—free of charge—a copy of "Plain Facts About Pliofilm"—a booklet that supplies a heap of useful information about this moistureproof, transparent film. Goodyear, Pliofilm Dept., Akron 16, Ohio.

Pliofilm, a rubber hydrochloride—T.M. The Goodyear Tire & Rubber Company, Akron, Ohio

GOOD THINGS ARE BETTER IN

Pliofilm 3-WAY PROTECTION AGAINST AIR, MOISTURE, LIQUIDS

GOODYEAR PACKAGING FILM

GOODYEAR, PLIOFILM DEPT.
AKRON 16, OHIO

Please send me free copy of "Plain Facts About Pliofilm"

Name_____

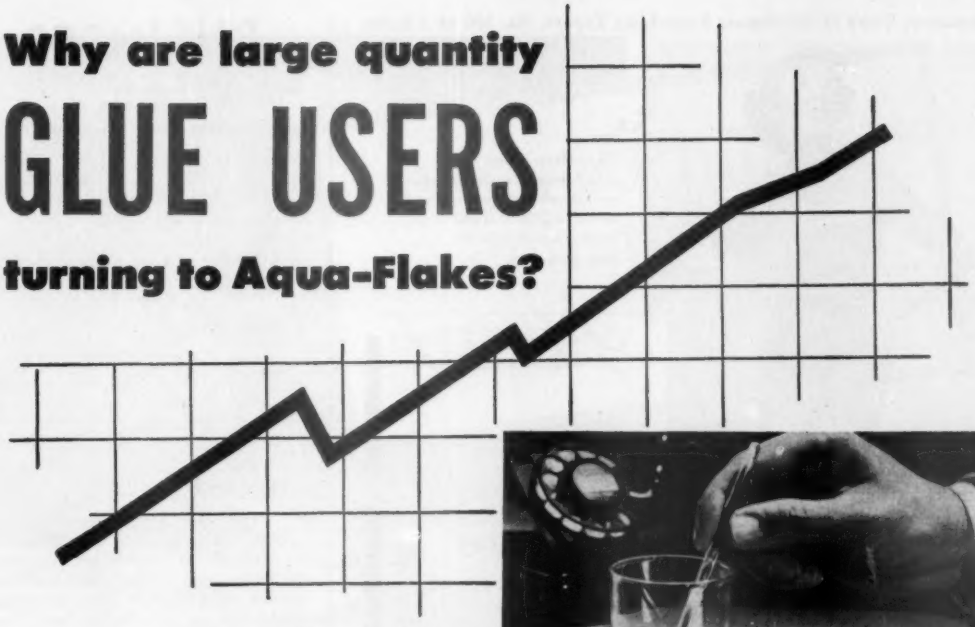
Firm_____

Address_____

City and State_____


THE NEW BRITAIN MACHINE COMPANY
NB
Invest in better methods for guaranteed returns
Automatic Bar and Chucking Machines • Precision Boring Machines
Lucas Horizontal Boring, Drilling and Milling Machines
New Britain +GF+ Copying Lathes
NEW BRITAIN
Automatics
THE NEW BRITAIN GRIDLEY MACHINE DIVISION
THE NEW BRITAIN MACHINE COMPANY
NEW BRITAIN, CONNECTICUT

Why are large quantity GLUE USERS turning to Aqua-Flakes?



. . . make glue at your desk and see!

AQUA-FLAKES® start as a complete liquid adhesive. Ready-for-use. We remove the water by a special process. When you replace it, all of the original adhesive qualities return.

— better than liquid adhesives!

AQUA-FLAKES, a dehydrated liquid dextrin adhesive, save up to 60%. There's no water to pay for. No freezing problems in use or in storage.

— better than old-fashioned cold water solubles!

AQUA-FLAKES take the guesswork out of preparation. Eliminate "lumpy" mixtures . . . complicated, time-wasting formulas.

— better than "cook-ups"!

AQUA-FLAKES are prepared *in minutes* not hours. No heating or cooling necessary. No costly equipment. Just add to water for a quality adhesive with lightning tack . . . beautiful filming properties.

Proof? Make a batch at your desk! We'll supply an AQUA-FLAKES sample . . . a stirring rod . . . and a handy measuring glass — if you'll mail the coupon!

Viscomat equipment is designed to prepare AQUA-FLAKES solutions — automatically — in any quantity, to any viscosity. For fabricating, sealing, and adhering paper containers and other paper products.

If you are a large user of industrial adhesives, you should be interested in AQUA-FLAKES.

National ADHESIVES

270 Madison Ave., NEW YORK 16; 3641 So. Washtenaw Ave., CHICAGO 32; 735 Battery St., SAN FRANCISCO 11; and other principal cities. In CANADA: National Adhesives (Canada) Ltd., TORONTO and MONTREAL.

BW

I'D LIKE TO SEE whether AQUA-FLAKES are easier to prepare, more economical than my present adhesives.

☐ Please send an AQUA-FLAKES test kit

☐ Please have a National representative call on

Mr. _____

Company _____

Address _____

City _____ Zone _____ State _____

In BUSINESS this WEEK . . .

• How Good . . .

. . . is Russia's Mig-15? The Air Force, studying one captured in Korea, says it's very good indeed. Here's how the Mig compares and contrasts to the U. S.'s F-86. P. 30

• How Are . . .

. . . magazines doing? Some are finding the going rough. But many are setting new records. For almost all, though, it's prosperity with little actual profit. P. 38

• How to Draw . . .

. . . tourists with folk drama. North Carolina has worked out a highly-effective formula. It involves building amphitheaters and hiring Pulitzer Prize winners to dramatize local historical events—and so far the formula has worked fine. P. 90

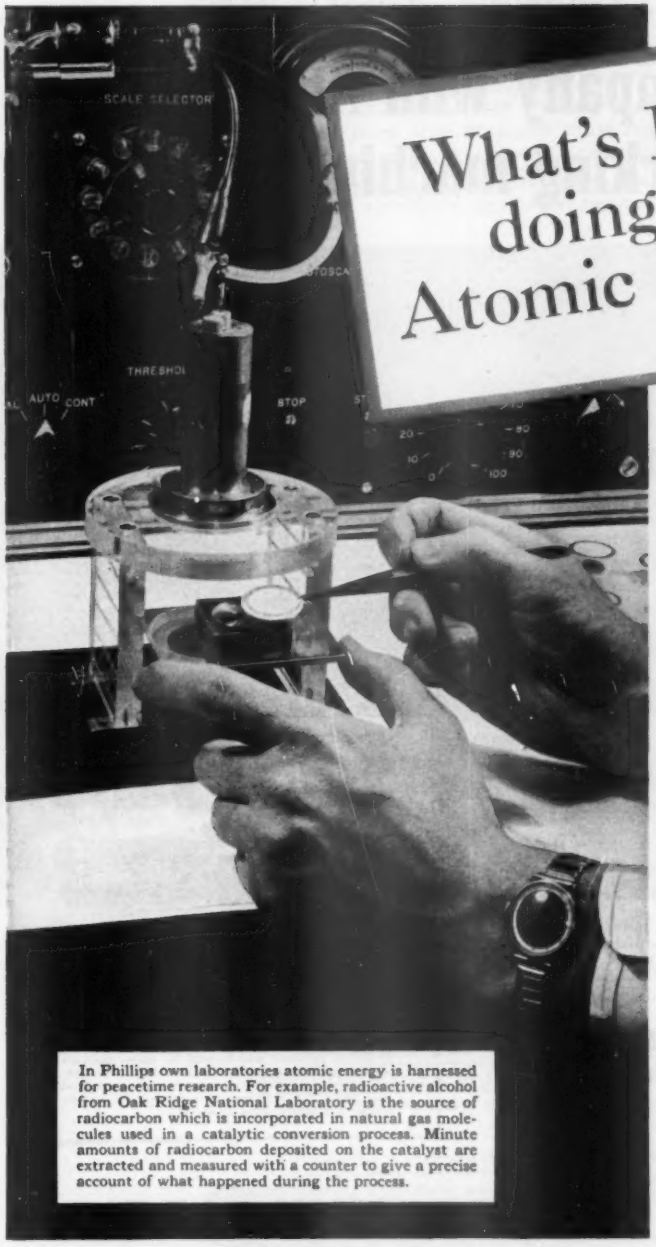
• How Long . . .

. . . can Wage Stabilization Board III last? A new board takes over July 30—with a lot of cards stacked against it. P. 130

• How Can You . . .

. . . educate educators in the living economics of business? Case Institute of Technology thinks it has an answer—and Republic Steel thinks enough of the plan so that it is footing the bill. P. 154

THE DEPARTMENTS



In Phillips own laboratories atomic energy is harnessed for peacetime research. For example, radioactive alcohol from Oak Ridge National Laboratory is the source of radiocarbon which is incorporated in natural gas molecules used in a catalytic conversion process. Minute amounts of radiocarbon deposited on the catalyst are extracted and measured with a counter to give a precise account of what happened during the process.

What's Phillips doing with Atomic Energy?

In 1950, the Atomic Energy Commission chose Phillips Petroleum Company to operate the new Materials Testing Reactor then being built near Idaho Falls, Idaho. The Commission announced on April 1, 1952, that this new research tool had started operating successfully.

Here, Phillips scientists will uncover essential knowledge about reactor construction materials, new testing techniques, radioactive products and control instruments for military and peaceful uses.

That Phillips should be singled out for this challenging assignment is a tribute to the company's achievements in research.

Beginning with eight scientists in 1925, Phillips now employs over eight hundred in research and development. For Phillips believes that the way to success in the highly competitive "energy" business is through intensive and unremitting inquiry into better ways of providing products and services.

Emphasis on research has proved to be good business for Phillips. It's good business for America, too.

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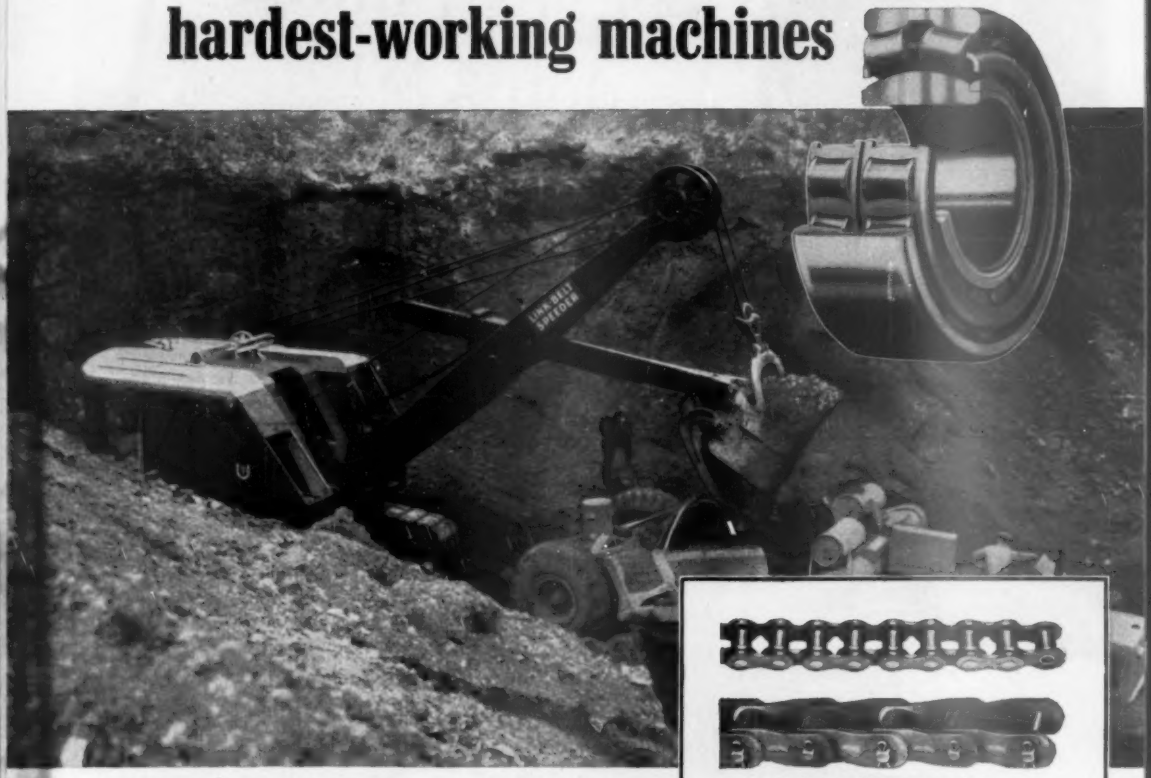
Bartlesville, Oklahoma

We Put the Power of Petroleum at America's Service

Phillips 66

LINK-BELT research and engineering . . . Working for Industry

Keeping company with America's hardest-working machines



▲ Tough digging in an open pit mining operation puts heavy loads on the bearings in this powerful Link-Belt Speeder 1½-yard shovel. That's why Link-Belt roller bearings were chosen for the vitally important center pin, sliding pinion drum, swing and clutch shafts of this machine.

LINK-BELT Ball and Roller Bearings are the long-life answer for tough service

THE efficiency and life of any machine are dependent on the quality and accuracy of its bearings. That's why so many of America's top machine designers rely on Link-Belt's complete line of time-proved industrial ball and roller bearings.

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Drive and conveyor chains

Ball and roller bearings

Link-Belt products widely used by major builders of construction machinery include drive and conveyor chain as well as mounted and unmounted ball and roller bearings. In both fields, Link-Belt builds a comprehensive quality line.

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12,870

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BUSINESS OUTLOOK

A BUSINESS WEEK SERVICE

Unemployment won't go up as much this summer as you might expect, and here are the reasons:

(1) A lot of those not working (strikers, for example) have jobs. Many now being laid off expect to be recalled; as long as they are not looking for other jobs, they can't be counted as unemployed.

(2) Farms will provide quite a few jobs if workers are to be had. This reverses the farm-to-city drift when employment is flush.

•

Latest figures on the labor force show a sudden gain in farm work's popularity—now that city jobs are temporarily scarce.

The number of people working on farms in June was 8,170,000. That topped the highest figure for last year by nearly 150,000.

•

Unemployment would have been up quite sharply in June if farm jobs hadn't saved the day.

There were 64.4-million people holding jobs or looking for work. That was a rise of 1.6-million in a month. (A year ago, the rise from May to June was a little less than a million.)

Not quite 200,000 of the new people found nonfarm jobs. But 1.2-million found work in agriculture.

Thus only 200,000 were added to the jobless. That brought unemployment to 1.8-million (nearly 200,000 under a year ago).

•

Thanks to the big rise in farm jobs, over-all employment in June came to 62,572,000. That's only a shade under the highest figure on record —62,630,000 last August—and tops a year ago by 750,000.

Partly concealed, though, is the lag in nonfarm employment.

At 54.4-million in June, industry, trade, and the services will do well this summer to match last August's peak (just under 55-million).

•

Steel's drag on wages will show up much more clearly than its impact on employment.

In other words, the auto worker laid off because steel is running out in Detroit still has a job. But that doesn't buy groceries; he will be lucky to draw more than a few days pay during July.

This is true even if the steel strike ends soon. It will take time to get auto output rolling due to unbalanced inventories (page 27).

•

Paid vacations will be a partial cushion for people working in plants now closing for lack of steel. Many were due for vacations now anyhow; others are getting them ahead of schedule.

•

Demand for nonferrous metals has held up remarkably well so far, considering that most users have to have steel, too.

Even zinc, though its use in galvanizing is directly dependent on availability of steel sheets, has been moving pretty well.

Business in copper has fallen off little, if at all. But here there are fears that labor trouble will reduce the supply; some of the buying may have been precautionary in character.

•

Many in the metal trades suspect the Administration of bolstering

metals with an eye on the elections. They feel there is more than a little politics in the new stockpiling of lead.

Zinc, too, believes that it won't be overlooked.

•

Neither farmers nor merchants are complaining too much about the hot weather that has plagued most of the country.

Store men are happier than in a long time. They have made up for earlier lags in hot-weather and vacation apparel. And, over many sections of the country, electric fans have gone like hotcakes while refrigerators and air conditioners have picked up briskly.

For the farmer, you saw the story in this week's crop reports.

•

Hot weather has the corn crop well ahead of normal in all but a few areas where moisture has been insufficient.

But the big gainer has been winter wheat where all production records likely will be shattered.

This assures plenty of grain for both food and feed.

Even though spring wheat yields will be poor, we should produce more than 1,350-million bu. of the bread grain this year. That's fully 600-million bu. above domestic requirements.

•

More than 26-million acres have been seeded to cotton this year.

While that's 2-million acres short of the government's goal, it should yield 14-million bales. If dry areas in the western Cotton Belt get good rains soon, the crop could go above 15-million.

Thus new-crop cotton should run 4-million to 5-million bales more than domestic mills would need, even in a very good year.

•

Vigorous, government-supported export programs can be counted on in the coming year to move surplus output of both wheat and cotton.

Sales abroad, in the crop year now closing, set modern records.

However, the future doesn't look so easy. The textile slump in Europe dims cotton sales prospects; and better grain crops abroad will reduce needs for our wheat.

•

Steel wasn't choking construction activity in June. The value of work put in place broke all monthly records at $2,981-million, according to the joint estimates of the Depts. of Commerce and Labor.

That was a little better than 6% over a year ago.

In addition, June brought the six months' figure to just under $15-billion. That, too, is a new record—4.2% above last year.

The increase, though, is all in publicly financed work. Private outlays ran 1.4% behind in June and nearly 4% for the six months. The six-month public total was nearly $5-billion, a gain of 25%.

•

Residential building pulled a shade ahead of 1951 in June.

The estimated value was $965-million against $957-million for the same month last year. Due to earlier lags, however, the total for the six months was about 8% behind at $4,927-million.

Governmental expenditures on housing seem to have leveled off at around $55-million a month—though the six months figure is up 54%.

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Celanese* Acetate TRANSPARENT FILMS

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Ceramics and Man through the Ages

Cretan Commercial Ceramics

Centering in the commercially powerful island of Crete, the Aegean Civilization (3000-1200 B.C.) marked the transition of culture from Asia to Europe. The Cretans were taught the use of pottery wheels by Egyptian craftsmen, and attained distinction in nearly every form of the potter's art.

The Cretan potter developed a glaze rivaling the consistency and delicacy of porcelain, mastered the technique of faience, and in his most perfect product, the graceful "egg shell" Kamares ware, dared to thin the ceramic walls to a millimeter's thickness! He signed his name to his work, and his trademark was highly sought throughout the Mediterranean world until the end of the Golden Age, about 1400 B.C. Such perfection was not seen again for nearly 1000 years.

ALCOA Alumina is widely used in the perfection of modern commercial ceramics. Added to whiteware bodies, it reduces firing deformation, increases strength, permits thinner sections, improves whiteness. It prevents sagging in glazes at higher temperatures, resists chemical attack and mechanical and heat shock. ALCOA Alumina is also widely used in optical glass and fine tableware, vitreous enamels and high-temperature refractories.

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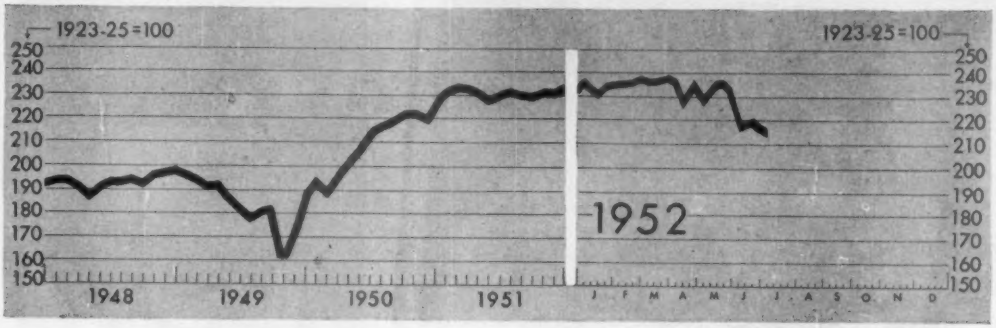
CRETAN POTTERY
Octopus Vase, 1600-1500 B.C., Candia Museum
Palace Style Vase, 1500-1350 B. C., National Museum, Athens

For a free chemical analysis of Cretan Pottery, write to ALCOA. (Fragments for analysis, courtesy of the University Museum, Phila.)

FIGURES OF THE WEEK



	§ Latest Week	Preceding Week	Month Ago	Year Ago	1946 Average
Business Week Index (above)	*217.3	†218.4	222.6	232.6	173.1
PRODUCTION					
Steel ingot production (thousands of tons)	307	†277	254	2,029	1,281
Production of automobiles and trucks	87,052	†124,337	128,807	98,087	62,880
Engineering const. awards (Eng. News-Rec. 4-week daily av. in thousands)	$55,469	$49,476	$44,151	$56,080	$17,083
Electric power output (millions kilowatt-hours)	6,453	7,318	7,005	6,077	4,238
Crude oil and condensate production (daily av., thousands of bbls.)	6,102	6,153	6,081	6,169	4,751
Bituminous coal production (daily average, thousands of tons)	1,576	†1,313	1,555	1,906	1,745
TRADE					
Carloadings: manufactures, misc., and l.c.l. (daily av., thousands of cars)	64	65	74	78	82
Carloadings: all other (daily av., thousands of cars)	44	42	53	59	53
Department store sales (change from same week of preceding year)	+1%	+6%	+2%	-2%	+30%
Business failures (Dun and Bradstreet, number)	131	163	120	129	217
PRICES					
Spot commodities, daily index (Moody's Dec. 31, 1931 = 100)	435.4	†435.6	435.3	481.8	311.9
Industrial raw materials, daily index (U.S. BLS, Aug., 1939 = 100)	267.6	269.1	268.2	322.9	198.8
Domestic farm products, daily index (U.S. BLS, Aug., 1939 = 100)	351.2	†349.2	346.4	365.6	274.7
Finished steel composite (Iron Age, lb.)	4.131¢	4.131¢	4.131¢	4.131¢	2.686¢
Scrap steel composite (Iron Age, ton)	$39.50	$39.17	$42.00	$43.00	$20.27
Copper (electrolytic, Connecticut Valley: lb.)	24.500¢	24.500¢	24.500¢	24.500¢	14.045¢
Wheat (No. 2, hard and dark hard winter, Kansas City, bu.)	$2.22	$2.22	$2.40	$2.27	$1.97
Cotton, daily price (middling, ten designated markets, lb.)	39.68¢	†39.77¢	40.53¢	43.45¢	30.56¢
Wool tops (Boston, lb.)	$2.05	N.A.	$2.05	N.A.	$1.51
FINANCE					
90 stocks, price index (Standard & Poor's)	198.2	†198.1	192.6	172.0	135.7
Medium grade corporate bond yield (Baa issues, Moody's)	3.50%	3.50%	3.50%	3.55%	3.05%
Prime commercial paper, 4-to-6 months, N. Y. City (prevailing rate)	2¼–2½%	2¼–2½%	2¼–2½%	2¼–2½%	¾–1%
BANKING (Millions of dollars)					
Demand deposits adjusted, reporting member banks	51,708	52,870	52,516	49,340	††45,210
Total loans and investments, reporting member banks	77,493	75,413	73,725	70,268	††71,147
Commercial and agricultural loans, reporting member banks	20,567	20,784	20,424	19,153	††19,221
U. S. gov't and guaranteed obligations held, reporting member banks	33,582	32,488	31,903	30,886	††49,200
Total federal reserve credit outstanding	24,155	23,753	24,079	23,970	23,883

MONTHLY FIGURES OF THE WEEK		Latest Month	Preceding Month	Year Ago	1946 Average
Wholesalers' inventories (seasonally adjusted in millions)	May	$9,478	$9,662	$10,235	$5,489
Retailers' inventories (seasonally adjusted, in millions)	May	$18,060	$18,010	$20,570	$9,791
Employment (in millions)	June	62.6	61.2	61.8	55.2
Unemployment (in millions)	June	1.8	1.6	2.0	2.3

* *Preliminary, week ended July 5.* *N.A. Not available.* † *Revised.*
†† *Estimate (BW—Jul.12'47,p16).* § *Date for "Latest Week" on each series on request*

Now a skilled watchmaker, John Savich operates his own jewelry and watch repair store at 50 S. Washington Street, Binghamton, New York.

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"Helping with the dishes" — just a part of normal living.

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After many months in the hospital and a delicate operation, the Liberty Mutual Rehabilitation Service arranged for John's admittance to The Institute For the Crippled and Disabled in New York. Braces were fitted to his useless legs. With expert help he learned to walk on crutches, climb stairs, even to drive his own automobile.

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Rehabilitation is part of Liberty Mutual's complete Humanics program, which brings together all activities for preventing accidents and reducing disability and cost when accidents occur. It includes a wealth of specialized advice in Industrial Engineering and Hygiene, unsurpassed Claims Medical Service, and Rehabilitation — all directed toward reducing loss in every form, including the cost of Workmen's Compensation Insurance.

Would you like to know how Humanics has reduced costs and improved production in plants like yours? Just call or write for the booklet, "Humanics." Look in the Yellow Pages of your Telephone Directory for the nearest Liberty Mutual office, or write to 175 Berkeley Street, Boston 17.

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WASHINGTON OUTLOOK

WASHINGTON BUREAU
JULY 12, 1952

A BUSINESS WEEK SERVICE

Some hesitation about future business plans is normal in a presidential year. Executives are inclined to be cautious on new long-term commitments until they see who wins out in November and what changes in policy may be in the making. If widespread, such a wait-and-see attitude could become a dampener. It was in 1948. But the situation is somewhat different now.

The point to keep in mind this time as you look ahead: Government will be a powerful stimulant this summer and fall. It is ordering for defense at a rising rate and also pumping up the credit supply. The figuring among Truman's advisers is that this will offset any election-year uncertainty and assure good business through the last half.

•

Campaign issues affecting business now are coming into focus. The GOP has its platform, hammered out this week in Chicago. It's middle-of-the-road Republicanism. The Democrats will write theirs two weeks hence. And it's pretty well agreed within the party that the platform will be keyed to Truman's Fair Deal program. Thus you can begin to anticipate how the campaign will shape up, and the differences a change of party would make.

•

Spending is an example. Now that government buying is such a big factor in business, a sharp reversal would be a jolt.

The GOP promises to slash. Its platform goes beyond elimination of waste and calls for a real shrinkage in government outlays.

The Democrats will be less concerned with spending. In the past, they have turned it into a political asset.

The fact of the situation is this: No quick reversal on spending would come with a Republican victory. The pace has been set already in commitments this year for defense and foreign aid. The trend can be turned, to be sure, but it will take time—at least a year and maybe longer.

•

Taxes go with spending. Republican promises to get rates down are much flatter than any the Democrats will make. But neither party likes the idea of a big deficit—which means that tax cuts will be small until spending really can be curbed. There might be an exception to this rule: If business should turn down in 1953 when defense levels out, Congress might decide to cut taxes as a stimulant, regardless of which party is in power.

•

On labor, the big issue will be the Taft-Hartley law. The unions have no idea of abandoning their fight to take this statute off the books and return to something more along the lines of the old Wagner Act.

The Democrats will back repeal. They did four years ago, but couldn't get it through Congress. Chances are they will lose again, even if they stay in power. Southerners and Republicans can block them.

The GOP will support T-H. Its concessions to the unions won't go beyond promises to re-examine and improve the law.

•

Farm prices will continue to be supported. Both parties favor this. The differences are on support methods and levels.

WASHINGTON BUREAU JULY 12, 1952

Tariffs will be a hot issue. It's doubtful that a Democratic administration would drop the escape clause from the trade act next year.

On fair employment, neither party is likely to put through a compulsory law, despite the campaign bids for minority support.

•

The Democrats are cocky at this stage—sure they can win in November. That's a sharp turnaround from the party's depression of a few months ago. November is a long time off and anything can happen, but the mood today is important. It will put steam in the campaign and put money behind it. The reasons for the Democratic optimism aren't hard to find.

•

The Republicans are split. This week's nominating fight left scars. It's the same struggle between the old-liners and the more liberal wing that has plagued the party for years. The losers lack confidence that the victors can come out on top in November. It's a situation the Democrats hope will weaken the GOP drive.

And times are good. It's an old political saw that plentiful jobs, high wages, and strong farm income always help the "ins." The fact that the present prosperity rests on a partial mobilization to meet a threat of war is considered of no political consequence.

•

"Look-how-well-you're-doing-now" is the theme the Democrats will play.

The strategy will be to scare voters with warnings that the GOP would bring on a depression and might involve us in war. And running through it all will be the "bloc" appeals that Truman used to such advantage in 1948 to get support from farmers, unions, minorities, and other special interest groups.

•

The Republicans won't try to outbid the Democrats. The decision at Chicago was to hammer on the mistakes of 20 years of Democratic rule and the weaknesses in national leadership today.

On the home front, the fight will be over waste and corruption, plus the danger that high spending and taxes will lead to socialism.

In the foreign field, the attack will be on "weak" men whose bad decisions lost the victory of one war and now threaten to involve the nation in a new conflict.

•

The June bulge in defense orders was a freak. The Pentagon, afraid that Congress might not carry over contract money left uncommitted June 30, when the last fiscal year ended, rushed out orders. That pushed contract-letting from $4-billion in May to $8-billion.

July contracts will be around $5-billion, with a gradual rise to a $6-billion-a-month peak by yearend.

•

How Small Plants Can Sell to the Federal Government is the title of a new government pamphlet intended to help small business get defense orders. You can get copies free by writing the Small Defense Plant Administration, Washington 25, D. C.

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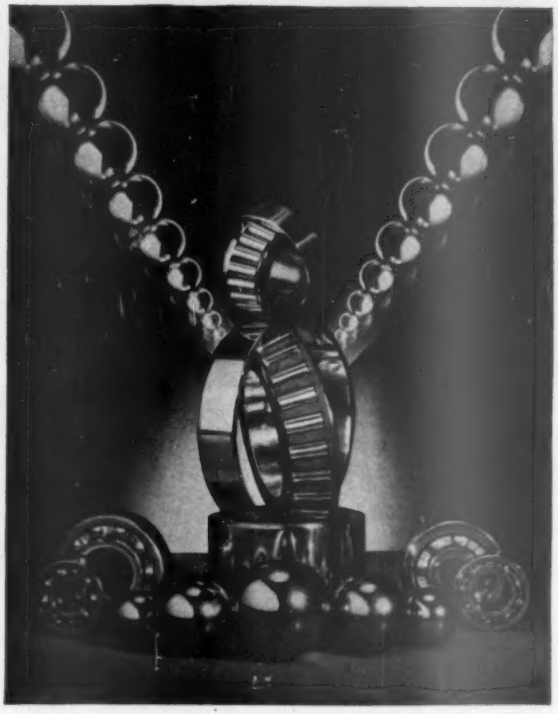

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BUSINESS WEEK

NUMBER 1193

JULY 12, 1952

PRODUCTION STOPS and workers bring children along to pick up paychecks. It's typical in steel-using industries because . . .

The Big Shutdowns Are Starting

The stalled assembly line in the Ford Motor Co.'s Somerville (Mass.) plant (picture, above) typifies what the steel strike is doing to U. S. business. The American people as a whole, haven't yet felt—or even really noticed—the impact of this fact. For one thing the Republican National Convention has driven the steel strike from the front pages. On top of that, its effects have not yet reached the consumer level.

• **Most Important Factor**—Yet the ominous fact has now become plain: In its sixth week, the steel strike has become the most important factor in the U. S. economy in 1952. No matter when the strike ends, it is already too late to prevent irreparable damage to the whole production picture for this year. There is just no chance of any manufacturer who is dependent on steel being able to come even close to his goals this year.

Biggest loss, of course, is in steel itself. By the beginning of July, the strike had already cost almost 11-million ingot tons. In his quarterly report issued last week, Defense Mobilizer John R. Steelman pointed out just how serious this fact is. The loss, he said, has virtually wiped out the gain made so far in the expansion program which has been under way since the start of the Korean war.

• **"Severe Setback"**—"The capacity of the industry," he wrote, "has been boosted from 100-million to 112-million ingot tons, but . . . the work stoppage means that the country will have less steel in 1952 than it had in 1951."

• **Iron-Ore Crisis**—And that's only part of the story. Steelman adds: "A further loss of steel is in prospect for next winter. Iron miners in the upper Great Lakes region and dock workers in the lower Lake ports left their jobs along with the workers in the steel plants. As a result, little ore was discharged at the ports during most of June, and the mills will consequently have far less than their normal 30-million-ton stockpile when the Lakes freeze over and shipping operations are halted."

The industry is aware of the seriousness of the iron-ore situation. This week, industry leaders held a meeting at which they planned to ask steelworker leader Philip Murray to arrange for the resumption of mining and shipment of ore. Already 13-million tons of ore have been lost over the amount shipped at this time last year.

• **Delayed Reaction**—But the squeeze this situation will cause next winter won't be any worse than the squeeze in the fourth quarter of this year. Everyone in the government believes that the strike has already made certain the extension of steel allocation controls through the first and probably the second quarters of next year. Defense Production Administration had been planning to drop steel allocations as of Jan. 1.

This certainty comes from the fact that it will be impossible to make up the steel loss. Even if the strike should end this weekend, say, we would still lose nearly all of July's production on top of June's. The reason is that it takes two more weeks, after settlement, to get the mills operating full blast

LAST PAYCHECK for a while is picked up by baby-sitting worker at Ford. Next week his plant will be shut down tight, may reopen for another full week July 21.

MAKESHIFT tops have to be buffed by hand, making costly but not inferior parts.

DESERTED CORRIDOR at executive offices is result of curtailed plant operation.

again. Thus the total loss from the strike can add up to no less than 18-million to 22-million ingot tons.

• **Two-Fifths Tops**—That's at least three-fifths of maximum quarterly production—28-million ingot tons. It means that no steel user will get much more than two-fifths of the steel he otherwise could expect in allocations for the fourth quarter. (The fourth quarter is more affected than the present because of steel lead times.)

Naturally defense officials would like to get all the steel that does come out of the mills for armaments. Once ingot production gets back to full capacity, the controllers will see to it that the maximum amount of raw steel possible goes into the shapes and forms needed for defense. But the capacity for making these shapes and forms is limited. A lot of ingot will be left for sheet and strips, forms used almost exclusively for automobiles, appliances, and other nonmilitary end uses. There would be no point in shutting off this type of production so long as mills were also running at capacity on defense orders.

• **Fast Slowdown**—Meanwhile, the present situation is deteriorating at a faster and faster pace. Few steel-using plants throughout the country have failed to be affected—either by total shutdown or partial operation. Applications for unemployment compensation have risen sharply everywhere within the past week. And with every day that goes by, more and more companies give up, shut down their plants completely.

Most companies, of course, try desperately to keep operating until they literally can go no farther. The auto industry is a prime example. This is the industry's peak selling season, so it is doing everything it can to keep up production. One trick is to make large sheets of steel for tops and other body

DESERTED CAFETERIA used by workers is prepared for a long shutdown. That's the only time that the plant operators put the chairs on the tables.

parts by welding small pieces together (picture). In other cases, they cut wide sheets to make narrow ones.

• **By Hand**—At the Ford Somerville plant, the worst shortage is steel for tops, hoods, and wheel rims. It has made do up through this week on hoods and roofs by patching sheets together. This method, says Ford makes just as high-quality and sound a roof as the process. But it's a tedious job, and costly. And even with this makeshift, Ford can't turn out enough roofs to keep its line going steadily.

• **Paralysis Creeps**—While this has been going on, reports from all over the country show that the strike has begun to paralyze more and more industries. If it goes on much longer, in fact, it will affect every man, woman, and child in the nation.

This week, for example, NPA announced that the shortage of tinplate will make the nation lose two-thirds of its production of perishable fruits and vegetables for every week the strike continues from now on.

Even if the strike is settled immediately, the U. S. stands to lose a substantial part of its 1952 tomato crop, which comes up for packing early in August, said NPA.

Congress Exits

Some important-to-business laws pass in last moments of a session largely devoted to large issues.

In the closing-rush chaos of the 82nd Congress last week, a raft of important-to-business bills were finally slammed through. Many of them had been hanging fire throughout the session, while Congressmen took their own good time over spotlighted investigations.

The story session ended Monday night, when a compromise was reached on construction funds for atomic energy expansion. That paved the way for sine die adjournment. The 82nd had held its last meeting, barring the very unlikely event that President Truman calls a special session between now and Jan. 3 when the still-to-be elected 83rd Congress will set up shop.

• **Weaker Controls**—In general, the 82nd had been dominated by the anti-Truman coalition of Republicans and Southern Democrats. It had weakened the controls law, had tried to apron-string many appropriation bills with riders and limitations, and refused to vote the steel seizure powers sought by the President.

For most of its life, the 82nd had been an economy-talking Congress. But in the final adjournment scramble it restored earlier deep cuts in pork barrel projects, and lifted the House-imposed ceiling on military spending. For all expenses, Truman had asked Congress for roughly $90-billion. Congress voted about $79.5-billion, not counting the $2.5-billion supplemental for fiscal 1952.

• **Foreign Affairs**—In the international field, the 82nd went along with the main planks of Truman's programs. But a protectionist drive generated a lot of steam, with strings tied to reciprocal trade and attempts made to raise tariff and other barriers against foreign goods. Still no important parts of foreign trade policy were gutted. Some big cuts were made in the always-vulnerable appropriations for military and economic aid. But Congress finally voted over $6.2-billion of the $7.9-billion sought by the President.

For most of the session, these bills affecting broad policy—along with the ever-tempting investigations—took up most of Congress' time. In the closing minutes, the bills that businessmen were looking for had their brief day. Here are some of the bills that were passed:

Fair trade. A bill restoring the teeth to resale price maintenance was passed by huge majorities in both Houses. But

Truman is almost certain to kill it with a pocket veto (page 31).

Farm price supports. Congress extended the two-parity formula which will hold price supports at 90% of parity for six basic crops: cotton, corn, wheat, tobacco, rice, and peanuts. The sliding scale allowing cuts to 75% of parity, which had been scheduled for 1954, now can't go into effect until 1956.

Mine safety. A watered down bill (page 134) was passed permitting federal inspectors to close mines—but only when they believe there is immediate danger of explosion, fire, or cave-in.

Single military catalog. The military was authorized to set up a single catalog for all purchasing, with one name and one number for each item. At present, each service buys through an individual catalog. The Munitions Board is already setting up a single catalog; the new bill is expected to give the Board's director authority to resolve differences between the services.

Tidelands. Both Houses passed a bill returning submerged coastal lands to the states. This was vetoed by Truman, and supporters of the bill were never able to muster enough Senate votes to override.

Patent laws. All patent laws are codified in a single package. This bill resulted from a two-year drive to bring together all laws relating to patents from 1874 down to the present.

Employee stock purchase plans. This bill provides that where a trust or organization is set up to buy stocks with the funds of employees, an employee will not have to pay a tax on any appreciation in the value of the stock until he sells it. At that time, the stock will be subject to the capital gains tax.

Fresh water from sea water. A $2-million, five-year program was set up for research and development of processes for making sea water usable by agriculture and industry.

Social security. Benefit payments were increased by about $5 a month, which will increase total annual payments by $540-million.

Veterans' benefits. G. I. benefits were extended to veterans of the Korean war, including home loan provisions, mustering out pay up to $300, unemployment compensation, and educational benefits.

Water pollution control. The original act was extended from its expiration date until June, 1956.

Defense housing. The defense housing program was propped up with $1.4-billion, including another $900-million of mortgage insurance by the Federal National Mortgage Assn., $400-million in Federal Housing Administration loan guarantee authority, and $100-million for building defense housing and community facilities.

AIR FORCE REPORT SIZES UP

Russia's MiG: A Lot

The Air Force has found out officially what veterans of Korea have been saying for a long time: that the Russian-built MiG is at least a match for our first-line F-86 Sabre jet.

The evidence comes from the Korean battleground. A MiG built in 1948 in Kuibyshev, Russia, fell into United Nations hands and was shipped to the U. S. for evaluation. Air Force technicians and industry engineers have now completed their study. The news, included in tables above and first published in Aviation Week, a McGraw-Hill publication, is not cheering.

• **Findings**—These things are sure about the MiG being studied (and later models known to be in combat):

• The Russians copied and improved the original British Rolls-Royce Nene turbojet engine. Along the way they independently licked one design problem that baffled British and U. S. engineers until very recently.

• The relative lightness of their plane and the increase in the engine's designed thrust together account for the MiG's speed (672 mph.) and advantage over the F-86 in climb, ceiling, and maneuverability.

• As with the Russian version of the Caterpillar tractor (BW—Jun.14'52, p39), workmanship compares with America's best.

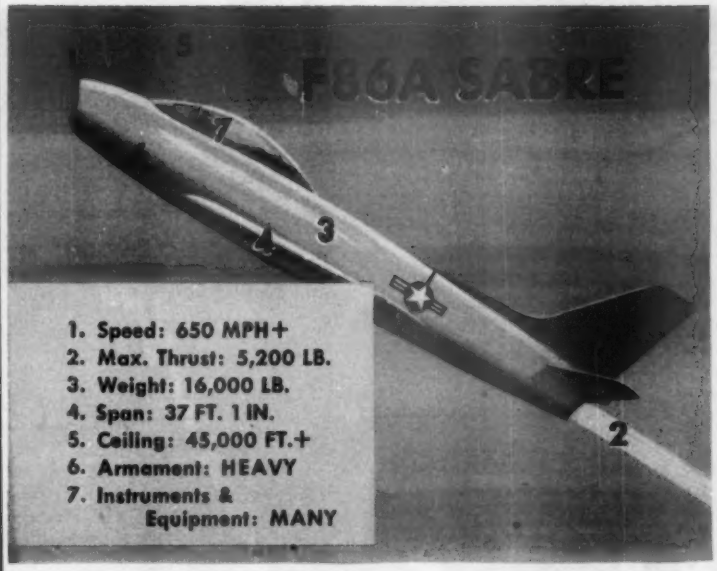
• **Different Philosophy**—Both the Air Force evaluation and the testimony of returning American pilots underscore another point, too: the basic difference in philosophy of designing fighter planes in the Soviet Union and in the United States.

Our first-string Sabre is a big, heavy plane, more intricately equipped than the MiG. The difference in wingspan is about 4 ft.; the difference in weight is about 2 tons. Much of the weight difference is in the Communists' disregard of gadgets the U. S. considers essential to the safety and comfort of the pilot.

The extra weight of the Sabre so drags down its performance against the MiG that Defense Dept. people are getting worried. "We're making our planes so safe for the pilot that we're killing him," said one Defense Dept. spokesman.

How the Russians think on this point was well demonstrated in World War II. The U. S. lend-leased around 7,000 Bell P-39 Aircobras, a second-line plane, to our Russian allies, who stripped them of armor, part of their armament, and instruments that we had thought essential. Suddenly the Russian P-39 was a topnotch fighter, a match for anything the Germans could show on the eastern front. Reason: It was 1½ tons lighter.

• **Power Plant**—To the smaller size and lighter weight of the MiG, add the thrust of a more powerful engine,



# of Fighter Plane

and you have the answer to its superior performance in Korea.

The original British Nene engine developed 5,000 lb. thrust. Russian engineers squeezed another 1,000 lb. thrust from this basic design; with water injection, maximum thrust is boosted to 6,750 lb. at sea level. Moreover, even more powerful Russian engines have been used in later models of the MiG now operating in Korea.

The trick the Russian designers pulled off that had long baffled western engineers was in the combustion chamber. The captured MiG engine has an extra ring of perforations aft of the primary zone of the combustion chamber. This gives increased dilution of air and boosts power.

MiG engines produce their 6,750 lb. maximum thrust (compared with about 5,200 lb. in our F-86) without any increase in weight. Both powerplants weigh about 2,000 lb.

• **Warning**—To many military men and aircraft engineers who studied the captured MiG, the most sobering discovery is this: Russian engineers are no mere copyists; their development of the British Nene engine to the MiG powerplant shows independent Soviet research of a high order.

Also impressive was the technical skill of the Russian builders. The Air Force evaluation shows that the manufacturers at Kuibyshev were particularly skillful at resistance welding. The report speaks especially of the "impressive quality of proficiency attained in welding three thicknesses" of metal.

The MiG uses steel at many points where highly concentrated loads are encountered.

• **Performance**—Early models of the MiG are known to have a fuel capacity of about 330 gal. (the plane burns kerosene) but U. S. pilots in Korea have tangled with several later models that have droppable wing tanks that extend the plane's range.

Even among the later models, only the night fighters and all-weather fighters are equipped with radar. The MiG's strong point, whatever the model, is its ability to take off fast, climb fast, and maneuver quickly.

The MiG can climb at about 10,000 ft. a minute from sea level, can reach the 30,000-ft. combat altitude in less than 6 min. Its ceiling is around 50,000 ft., which may be a little higher than that of our Sabre jet.

• **Armament**—Our Air Force isn't saying exactly what our Sabres carry in the way of offensive weapons, but it includes six 50-cal. machine guns. The Russian plane is equipped with two 23-mm. cannon and one 37-mm. cannon, respectively, on the left and right sides of the nose, down low. It has external shackles for carrying either bombs or extra fuel.

Fair Trade Veto

McGuire bill clears Capitol Hill, but there's a big question as to whether the President will sign it.

The long drive to legalize retail price maintenance once again cleared its next-to-last hurdle in the closing hours of Congress, when the Senate last week passed the McGuire fair trade bill.

But the biggest barrier—President Truman—is still ahead.

With Congress adjourned, Truman could nullify by a pocket veto—simply failing to sign the bill within 10 days after receiving it—the year-long efforts of the fair trade lobby to get a law back on the books.

Truman has until July 15 to decide, but he has indicated that he will veto the bill. The Bureau of the Budget told Congress last winter that the bill was not "in accord" with the President's program, and the Federal Trade Commission and the Justice Dept. have opposed the bill in congressional hearings. So a veto—pocket or otherwise—seems a fairly safe bet, although fair traders still hope they can exert enough pressure to get Truman to sign the bill.

The fair trade lobby, spearheaded by the National Assn. of Retail Druggists, pressured the bill over each legislative hurdle. Although a highly vocal minority opposed the bill in each chamber, final votes were lopsided in favor of fair trade.

• **Crux**—Actually, the McGuire bill would enable 45 states to reactivate fair trade laws on branded merchandise that moves in interstate commerce. These laws became unenforceable in May, 1951, when the Supreme Court handed down its decision in the Schwegmann case (BW—May26'51,p25). The court then held that the Miller-Tydings amendment to the Sherman Act—passed in 1937—didn't bind the so-called nonsigner, the retailer who had no price-maintenance contract of his own with the manufacturer.

Meantime, it became apparent that a new law is more urgent for fair traders than ever before, as two states ruled that nonsigners were not bound to fixed prices if the manufacturer shipped goods out of the state. In New York, R. H. Macy scored over Adolph Rothbaum, a retail druggist in Jamaica, Queens; and in Michigan, Lippman's was awarded the decision over the Shakespeare Co. (page 46).

The Supreme Court told the fair traders that if they want such an exemption from antitrust law, they would have to get a new law. The McGuire bill is the fair traders' answer.

1952's Stocks: A Sobersided 1929

Mid-1952 had one thing in common with 1929: The stock market pushed to the highest levels ever (BW–Jul.5'52, p68).

But there the parallel ends–almost as quickly as it can be made. There's no fanfare this time. There are no Page One headlines. Least of all is there the speculative frenzy that marked 1929's "new era." Hardly any prophets even are around to chant, "See? What did I tell you?"

• **Law Key**–It might almost seem that the country has lost interest in Wall Street as a place to get rich quick–and in the stock market average as a barometer of business.

That's no more than partly so. The Brookings Institution's researchers have proved that fully 6½-million people are interested enough in stocks to own them (BW–Jul.5'52,p36). These individuals aren't giddily counting paper profits as in 1929 to see if they can afford a Rolls-Royce and a penthouse, but they at least are concerned about stock prices and dividends.

Nor is the stock market totally discredited as a business indicator. To be sure, it hasn't been much of a forecaster since war's end. Yet most people won't believe that business is going to pot with the stock market making new highs.

• **Drawbacks**–At the same time, there is little doubt that this "breakthrough" might have more of a following if more conditions had been "right."

For one thing, the wrong average topped the 1929 high. It was Standard & Poor's. While this index is perhaps the most representative and accurate (BW–Jun.21'52,p131), it isn't the one most people watch (particularly the chart readers). Over the years, to most people who visit brokers' board rooms or who phone New York Stock Exchange houses for information, the Dow-Jones average is "the market." And the D-J hasn't gone through.

For another, the breakthrough wasn't "on volume." To Wall Street addicts who place a good deal of store by the number of shares traded, this means popular interest wasn't high. Moreover, there's no sign of any boom in the low-priced shares, the darlings of the real speculators (page 126).

Finally, no matter which average you're watching, prices backed away after reaching their early-July highs. This, say the chart readers, isn't too convincing a performance.

You'll hear old timers describing the market as "mainly professional." Or perhaps they'll say, "There's nothing spontaneous about it. The buying is for pension funds and the investment trusts; they have new money coming in all the time, and they have to put it to work whether prices look too high to them or not."

• **Anyhow**–Nevertheless, this much is a fact: The total value of all the common stocks of 50 big, representative in-

dustrial companies making up the Standard & Poor's index are worth more now than they were in 1929. That, by itself, is a financial landmark.

And, whether the market is a business indicator or not, it has an indirect effect on the outlook that isn't to be minimized: People can almost feel their stock market profits bulging their pockets.

Moreover, bulls and bears alike are willing to agree that 1952 market profits aren't likely to melt away as they did in 1929. This is, after all, largely a cash market. People who own stocks can afford to keep them; they won't have to sell helter-skelter under the pressure of margin calls. And, even if they do sell, they will get money for their stocks instead of being wiped out, thus contributing to the speed and the depth of the depression as in 1929-32.

• **Argument**—Beyond that, though, there isn't much agreement. Take, for example, divergent views about the nature of today's buying:

Pessimists say that this breakthrough doesn't really count—because the public wasn't aboard. They contend, further, that the averages aren't representative (containing only the "best names" whose shares are gaining a certain scarcity value simply because pension funds, investment trusts, and wealthy individuals take them off the market).

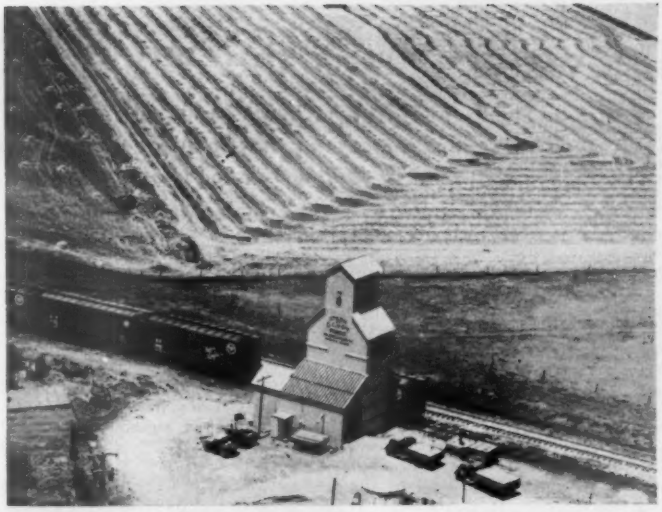
Optimists argue that the market's greatest strength stems from the very buying with which the bears find fault: "It's a very fine thing when the best people are buying the best names for permanent investment. If that isn't the smart money, where will you find it?"

• **More Arguments**—So the arguments go. Just as bulls boast of the high standing of the market's leadership, bears deplore the uninformed chase after profits in untested and untried (if not actually unknown) oil companies.

The bears have been fretting for some time over rising money rates. But the bulls point to the still-wide advantage stocks enjoy when their yields are compared with bonds.

These are the differences of opinion it takes to make a stock market or a horse race. The bulls and the bears are just as far apart on the economic outlook. And they can't even agree on politics: While some hold a Republican victory would mean a happier climate for business and the market, others believe this would result in a more conservative fiscal policy in Washington and a measure of deflation.

But the fact remains that after almost a generation of trying, the stock market has finally made it back to the levels of 1929. It's a sobersided, unexcited bull market, but it's the best one that a lot of people have ever seen. For the record: 20 years ago this week, stocks scraped their depression lows.



COUNTRY ELEVATORS like this one at Bayneville, Kan., bulge with wheat brought from field by trucks, as boxcars stand by to move it to market. As a result of June weather . . .

Wheat Comes in With a Rush

To most people wilting under daily heat records, June weather was a complete bust. Not to the Oklahoma or Kansas wheat farmer. Nothing could have perked him up more.

He was too busy, anyway, to think about the weather—getting ready to harvest a near-record crop, maybe the biggest ever. At the rate things are going, this year's winter wheat yield may top 1.1-billion bu., as compared with last year's 645-million bu. Top yield was 1947's 1,068-million bu.

• **Wheat Jam**—The hot, dry weather not only ripened the wheat to bumper proportions but ripened it early and kept it dry—ideal for cutting and moving it to market and elevators. Movers are in the biggest jam ever. Elevators and grain terminals are taxed to the limit.

For weeks terminal workers in the two Kansas Cities have been unloading carloads of grain at top speed—14 to 20 hours a day. Between June 15 and July 3, a total of 17,032 golden carloads hit the Kansas City market, compared with 8,226 carloads in the same two weeks of average year 1950.

• **On the Move**—Such a jam could have resulted in one big mess for the railroads. It hasn't. At least the grain is moving, which is a big achievement considering the tremendous size of the job.

Things haven't gone so smoothly at the terminals, though. Farmers have been slow to sell their grain, once they got it to the elevators, because the open market price is well below the government support price of $2.20 a bu. (national average of the farm). As long as they keep title to their grain, the farmers can put it under government loan and get something like 15¢ a bu. more than the market offers. A lot of them apparently intend to do just that. And so the wheat isn't moving out of the big terminal elevators.

On June 28, the Assn. of American Railroads slapped an embargo on grain consigned to Greater Kansas City, St. Joseph, and Kansas markets, unless the farmer could show that he had already arranged for storage or disposal of his wheat.

• **Memories**—All this made Washington officials shiver. They remember 1948, also an election year. Farmers had to sell a lot of their corn below support prices then because they didn't have adequate storage for it. The Republican Congress got the blame.

• **Support**—There's no real shortage of storage for wheat, however. And there's no doubt that a large share of the new crop will go under government loan.

The Dept. of Agriculture is campaigning to get farmers not to send any more wheat to market than they have to now. It's tempting them with figures showing that prices sometimes go up as much as 60¢ or 70¢ a bu. between August and late winter.

The government expects exports to drop from 460-million bu. in the crop year which ended June 30 to 375-million bu. in 1952.

Tidewater Minus the Water

U.S. Steel's new Fairless Works will be operating before the Army can dredge out the Delaware's channel for the ocean-going ships counted on to bring in ore and coal.

U.S. Steel Corp. is facing the prospect of beginning operations at its first tidewater steel mill without having the advantage of being at tidewater.

This week it looked as though the giant Fairless Works would be coming into production later this year, somewhat behind the original timetable. But even after the delay, the $400-million integrated plant will not have the benefit of really low-cost water shipping. For the Delaware River—the mill site is on its right bank two miles below Morrisville, Pa.—is not and will not then be deep enough to handle standard ocean-going vessels.

• **Unexpected**—Of course, Big Steel knew this two years ago when it first announced plans for construction of the Fairless Works. What evidently was not anticipated was the great delay in getting the Delaware River made navigable for ships of deep draft.

As long ago as Mar. 14, 1951, Ross L. Leffler, assistant to the executive vice-president of U.S. Steel, said that initial operation of the plant would require annual delivery by water of 3.3-million tons of foreign iron ore and domestic coal.

He added that plans called for bringing in an additional 3.5-million to 6-million tons of ore a year for stocking and blending (this ore to be used at other steel plants in the winter months when no ore moves down the Great Lakes). Leffler also talked about the need for 3.7-million tons more of ore and coal for open hearths and blast furnaces that will probably be installed later.

• **Engineers**—Leffler made these statements in a plea to the U.S. Army Engineers to dredge the Delaware river channel from Allegheny Ave., Philadelphia, up to the Fairless Works site to accommodate 35-ft. draft ships.

The present project channel depth for that distance is 25 ft. However, that is not enough for standard ocean-going cargo ships, such as the Victory, Liberty, C-2, and C-3.

The real rub is that the channel depth today is not even 25 ft. Because traffic has been light, the river has been allowed to silt up. Now there's about 8 ft. of muck to be removed.

Bids recently were opened by the Corps of Engineers for dredging to restore and then maintain the project depth. Contracts may be let within a week. One hopeful estimate is that the work may be completed by the end of this year. This would make it possible to move some material in with ships of small capacity.

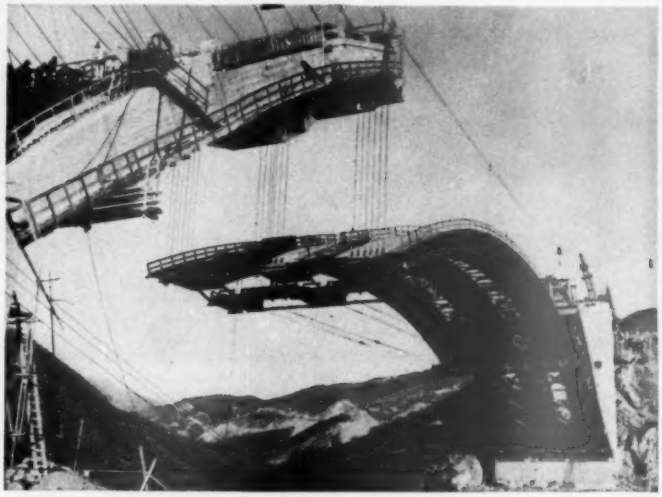
• **The Law's Delays**—The prospect for getting an even deeper channel is a long ways off. The North Atlantic division office has made a preliminary report to the Rivers and Harbors Board on digging to 40 ft. or thereabouts. When the board meets in September or October, it may act on it. The next order of business would be to get a congressional authorization for the new project, and then an appropriation. Only then would the channel deepening actually get started. Together the two dredging prospects may cost $95-million.

In the meantime, Big Steel could move in coal and ore in these ways:

• Transfer ore from deep draft ships to barges or railroad cars at Philadelphia for further movement to the mill.

• Move coal from Norfolk to Fairless Works by barges or in ships suitable for operation in the 25-ft. channel.

Both of these methods are substantially more costly than moving cargo in ships of deeper draft. The low cost of tidewater shipping has been one of the big reasons why the Fairless Works came to be built.



GIANT CONCRETE BRIDGE is one of three that will span gaps across Andean foothills on new highway Venezuela is building to give Caracas a . . .

Shortcut to the Caribbean

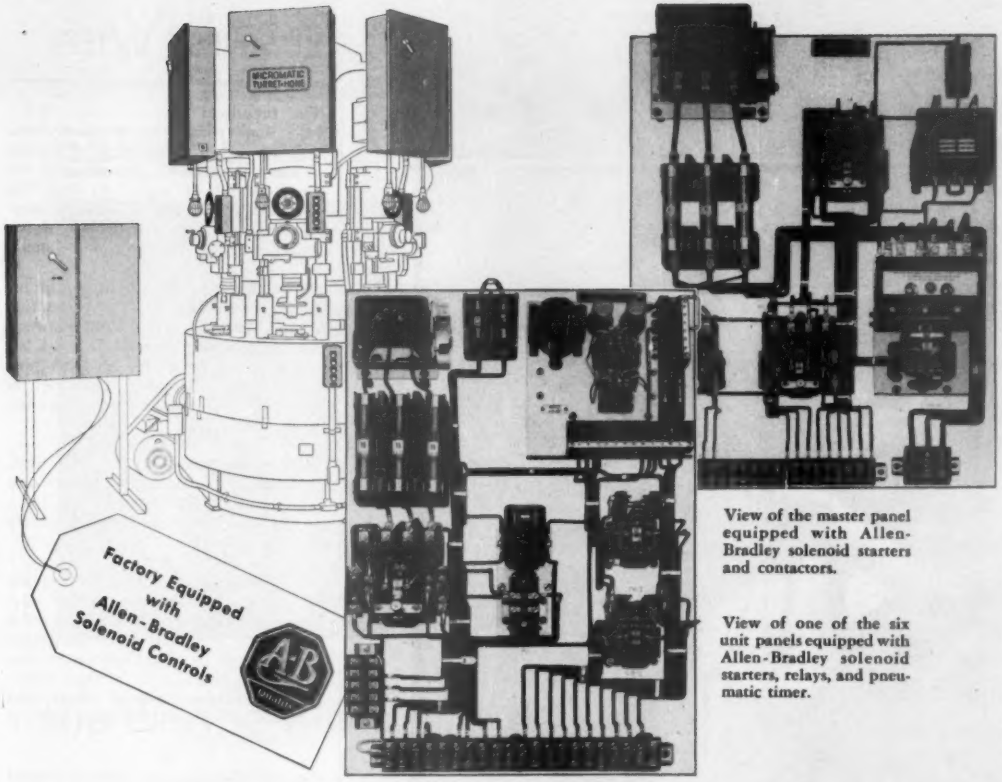
The only way you can get to Caracas from its seaport, La Guaira, a few miles away, is to cross the towering foothills of the Andes. Up to now, it's been a hair-raising, hour-long drive over a narrow, mostly unbanked, road that winds around 300 curves, many of them hairpin turns.

Half of Venezuela's imports, and nearly everything Caracas uses, has to come by truck over this road—a colorful but hazardous route.

Now Venezuela's Ministry of Public Works is rushing a new highway across the mountain gaps. Two thousand workers and over 200 Yankee-built bulldozers, tractors, trucks, and industrial behemoths little known in this country's road-building experience are performing engineering feats that will cut the link to 10½-miles of straightaway and slice driving time to 15 minutes.

The job combines American, French, and Venezuelan talents. Morrison-Knudsen of Boise, Idaho, is burrowing two giant, mile-long tunnels through the mountains. A French concern, Campeion Bernard of Paris, is building three of the largest prestressed concrete bridges in the world.

The Ministry hopes to rush the highway to completion in time for the 10th Inter-American Foreign Ministers Conference late in 1953.



View of the master panel equipped with Allen-Bradley solenoid starters and contactors.

View of one of the six unit panels equipped with Allen-Bradley solenoid starters, relays, and pneumatic timer.

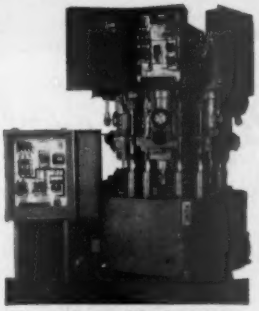
Micromatic Turret-Hone...

operated by Allen-Bradley Controls

Microhoning high production parts, such as connecting rods, rocker arms, bushings, and bearings, to close tolerances is the exacting job performed by this multiple spindle, high precision Turret-Hone manufactured by the Micromatic Hone Corporation. The master control panel and the six unit panels are equipped with Allen-Bradley motor controls.

Dependability and precision in operation of the electrical controls are a prime requirement for this type of machine. That is why Allen-Bradley solenoid motor controls are used. Long, trouble free life, and no contact maintenance are additional advantages. Allen-Bradley controls are a recognized sales asset to any motor driven machine.

Allen-Bradley Co., 1332 S. Second St., Milwaukee 4, Wis.



Turret-Hone with the master panel and one unit panel open.

A-B Quality

ALLEN-BRADLEY
SOLENOID MOTOR CONTROL
QUALITY

BUSINESS BRIEFS

The superliner United States (BW—Jul.5'52,p34) heads home this weekend with a sweep of Atlantic speed records in view. Eastbound, she averaged 35¼ knots (about 41 mph.) to beat the Queen Mary's record by 10 hr. 2 min. Her target now is the Queen Mary's 3-day, 21-hr., 48-min. westbound mark.

•

Oil industry capital spending will hit a record $4-billion this year, according to the American Petroleum Institute. That's 25% over the old mark, set last year. . . . The gas distribution and pipeline industry will spend a new high of about $5.6-billion for plant expansion in five years, 1952-56.

•

Sales of margarine in New York State more than tripled after yellow oleo became legally salable on July 1, a survey by New York State Food Merchants showed at midweek.

•

Most Cleveland executives keep up appearances even when the mercury stays above 90F during business hours day after day. A survey of 30 companies finds that in 16 offices executives wear dress shirts and ties (12 of these offices are air-conditioned), in 11 offices dress is optional, and in three the executives wear sport shirts.

•

General Motors asked a federal district court in Wilmington, Del., to dismiss Justice Dept.'s triple-damage civil suit based on GM's alleged acceptance of a concession from the B&O R.R. (BW—Jun.7'52,p36). GM said the government's failure twice to get a grand jury to indict the company had exhausted the government's remedies.

•

No water shortage is foreseen this summer by the Reclamation Bureau except possibly in Colorado, Texas, New Mexico, Oklahoma, and Southern Kansas.

•

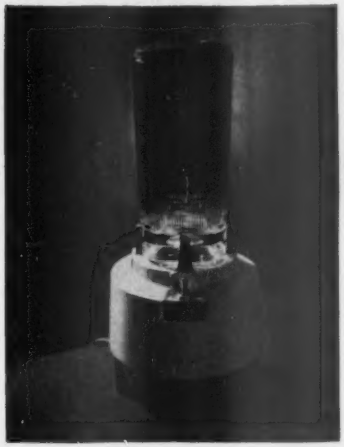
New bids have been called July 23 for stock of E. Leitz, Inc., German-owned company seized as enemy-alien property during World War II. Attorney General McGranery last month rejected all bids as insufficient; the highest bid was $677,779.

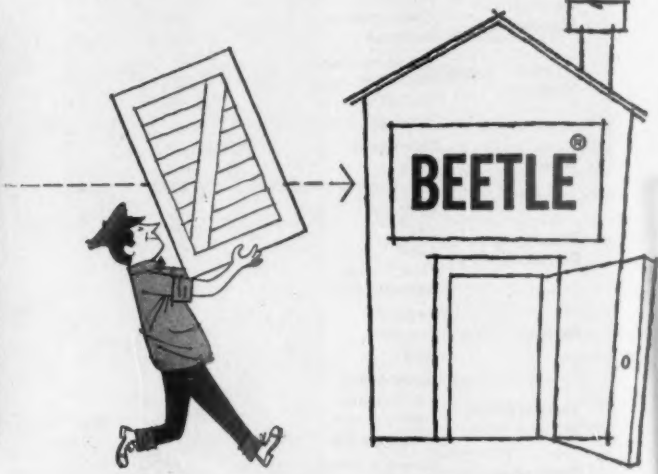
•

Government stockpiles will gain 50-million lb. of molybdenum, DMPA says, under a contract with Climax Molybdenum Corp. The company will spend up to $9½-million for additional facilities to process about 17-million tons of low-grade ore from its Lake County (Colo.) properties. The government will buy concentrates initially at $1.24 a lb.

for better "housing conditions"...

The new Waring Duo-Speed Blendor Celebrity Model PB-5, designed by Mr. Collura and housed in BEETLE plastic. Molded by Watertown Mfg. Co., Watertown, Conn.





the Waring Blendor® *has moved into* BEETLE® *plastic!*

Here are the reasons why Industrial Designer Francesco Collura specified BEETLE plastic for the new addition to the famous Waring Blendor line:

For color permanence . . . molded-in color that can't flake off, that eliminates the need for painting or plating, that gives lifetime color to any product.

For heat resistance . . . thermosetting BEETLE plastic is unaffected by motor heat, so it's the ideal material for electrical appliances requiring trim-looking, compact housings.

For excellent molding properties . . . Designer Collura also preferred BEETLE because it molds so easily and economically, and because its strength is out of all proportion to its light weight. (BEETLE weighs about one-fifth as much as zinc, is lighter than most other housing materials . . . prime considerations in shipping.)

Francesco Collura, S.I.D., noted Industrial Designer, who specified BEETLE plastics for the new Waring Blendor.

For stain resistance . . . water, perspiration, fruit and vegetable juices can't harm BEETLE, and it resists many other types of stains as well.

Got a housing problem in connection with *your* product? BEETLE plastic has increased the efficiency, beauty and sales appeal of so many other products, it may be the answer for you, too! Why not consult us and see.

We may be able to help you meet military specifications where plastics and resins are concerned. What's your problem?

AMERICAN *Cyanamid* COMPANY
PLASTICS DEPARTMENT
30D ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

In Canada: North American Cyanamid Limited, Royal Bank Building, Toronto, Ontario, Canada

MARKETING

		Circulation 1939 (in thousands)	Circulation 1951 (in thousands)	Circulation Per Cent Change	Advertising Revenue 1939 (in thousands)	Advertising Revenue 1951 (in thousands)	Advertising Revenue Per Cent Change
General Monthlies	American	$2,225	$2,575	15.7%	$ 3,091	$ 2,712	— 12.3%
	Cosmopolitan	1,873	1,916	2.3	3,113	3,079	— 1.1
	Redbook	1,233	1,956	58.6	1,541	1,600	3.8
Women's	Good Housekeeping	2,326	3,206	37.8	7,800	15,723	101.6
	Ladies' Home Journal	3,287	4,492	36.7	6,092	22,319	266.4
	McCall's	2,983	4,150	39.1	5,393	11,446	112.2
	Woman's Home Companion	3,283	4,168	27.0	5,994	12,410	107.0
News	Newsweek	366	843	130.3	1,046	12,598	1,104.4
	Time	752	1,664	121.3	6,968	29,951	329.8
	U.S. News & World Report	87	455	423.0	306	4,712	1,439.9
Weekly & Biweekly	Collier's	2,777	3,129	12.7	13,036	18,836	44.5
	Life	2,510	5,297	111.0	11,516	91,520	694.7
	Look	1,700	3,187	87.5	937	19,947	2,028.8
	New Yorker	147	352	139.5	2,375	7,899	232.6
	Saturday Evening Post	3,130	3,999	27.8	24,916	66,677	167.6
Men's	Argosy	50*	1,051	2,002.0	...	754	...
	Esquire	473	805	70.2	3,036	4,714	55.3
	True	...	1,667	...	...	1,967	...
Supermarket	Better Living	...	...	...	....	1,230	...
	Everywoman	...	...	....	...	1,493	...
	Family Circle	1,308	3,101	137.1	920	6,650	622.8
	Woman's Day	1,170*	3,721	218.0	489	9,379	1,818.0
Fashion Merchandising	Harper's Bazaar	202	352	74.3	2,193	4,409	101.0
	Mademoiselle	233	528	126.6	525	3,428	553.0
	Vogue	205	360	75.6	3,095	6,795	119.5
Home	American Home	1,632	2,830	73.4	2,647	6,953	162.7
	Better Homes & Gardens	2,027	3,587	77.0	3,182	21,937	589.4
	House & Garden	172	394	129.1	767	3,301	330.4
	House Beautiful	198	604	205.1	824	4,928	498.1
	Living	...	373	...	...	1,074	...
	Sunset	...	506	...	...	2,483	...
Farm	Capper's Farmer	1,166**	1,315**	12.8	1,174	2,842	142.1
	Country Gentleman	2,060**	2,318**	12.5	2,477	8,852	257.4
	Farm Journal	2,488**	2,856**	14.8	1,685	8,752	419.4
	Progressive Farmer	979**	1,181**	20.6	754	4,486	495.0
	Successful Farming	1,208**	1,235**	2.2	1,207	4,110	240.5
Outdoor & Sports	Field & Stream	244	788	223.0	387	1,629	320.9
	Outdoor Life	271	800	195.2	368	1,630	342.9
	Sports Afield	259	827	219.3	256	1,654	546.1
Fan & Romance Groups	Dell Modern	1,256	2,817	124.3	1,161	2,497	115.1
	Fawcett	2,318	2,783	20.1	1,522	2,522	65.7
	Hillman	...	1,547	....	...	405	...
	Ideal	346*	1,586	358.4	...	491	...
	McFadden #	3,987	5,575	39.8	4,994	6,632	32.8

*Estimated
#Figures not comparable
**Excluding bulk

Data: Audit Bureau of Circulation, Publishers Information Bureau, Standard Rate & Data. Circulation figures are average for 6 months ended Dec. 31; total net paid including bulk.

Competition—From Inside And Out—Grips Magazines

A few weeks ago that venerable publication, Country Gentleman, came out with an announcement that read like a paradox. In effect, it went like this: Because we are living in an age of prosperity, we are changing our format and editorial content and cutting our advertising rates (BW—Jun.21'52,p56).

Since special inducements to buy

The place where summer never ends

The slow, steady aging of fine whiskey calls for a summery temperature twelve months of the year. Only in a man-made climate could this ideal weather exist all year round. That's why summer never ends in Schenley's many warehouses. Schenley helps Nature, creates and maintains its own wonderful warehouse weather. Even when snow covers the ground, inside it's balmy, with pleasantly moist air and soft breezes.

Year after year in this perfectly controlled climate, whiskies mature in sturdy oak barrels which Schenley makes itself. Each barrel is carefully watched over and checked all during the long aging.

Making perfect weather is just one of the quality controls that guard Schenley whiskies from the time the grain is grown till the whiskey is in your glass.

This is Schenley's way of making certain that you get the utmost enjoyment in every drop of every drink. *Schenley Distillers, Inc., New York, N. Y.*

SCHENLEY

seldom accompany an era of prosperity, the statement at first glance hardly makes sense. But it does make sense in the light of what has happened to farm publications—and a lot of other kinds of magazines—over the years.

• **Revenue**—Since 1939, the circulation gains (table, page 38) of farm magazines have been relatively small—quite naturally, in view of the decline of the farm population. But their advertising revenue gains are among the best in the field, thanks partly to the increasing prosperity of the farmer. Some of the credit also goes to an editorial policy that has begun to realize the farmer is a businessman, and that his wife is an increasingly good potential customer.

At the same time, competition within the farm magazine field is hot. Farm Journal gave Country Gentleman a race last year to hold its place as No. 1 revenue earner. This year, in the first quarter, Farm Journal, Progressive Farmer, and Successful Farming all topped Country Gentleman in pages of advertising sold.

• **Regional**—What's more, the national farm papers have stiff competition in the regional ones. In the nature of the business, the regionals have a strong appeal. Hence Country Gentleman stresses that it will regularly carry regional articles.

The difficulties of the farm periodicals are more or less reflected in other magazine groups. Most of them have their problems. Basically, it's a question of an ancient form of communication confronted by fast-changing times. The circulation and advertising revenue figures in the table tell some of the story. They indicate that periodicals are suffering from two things:

• Competition from outside.

• Mounting competition from within.

From the outside, new forms of at-home entertainment are giving the magazines a stiff run for their money. In dollars their advertising revenue is still up (BW—Feb.16'52,p152), but they no longer have the field to themselves. Publishing and space selling formulas that stood the field in good stead 30 years ago don't work today. So the magazines are looking for new formulas that will enable them (1) to broaden their market base, or (2) pinpoint a special chunk of the market and make it their own.

In the process old lines of differentiation are breaking down. Newspapers have moved into the magazine field—by way of weekly supplements, columns, special features. Magazines have become dispensers of news.

The magazines' job is further complicated because the publisher of most periodicals is a two-way salesman. First he must sell his own product to the reader. Then he must sell it to the advertiser as a market for his wares. The table shows how well—or how badly—various groups have done both jobs.

• **Entertainment**—What comes out most strikingly from the figures is that entertainment—in magazine form—is, with a few exceptions, harder to sell today than information or service. There's more competition for the reader's time, more competition from other, newer media for the advertiser's money. Here are some of the things that emerge from the data:

The decline of the general monthlies is usually regarded by the advertising fraternity as the strongest evidence of the inroads of radio, television, and movies. This group, which sells entertainment primarily, is the only one that shows a long-term decline in revenue. And while circulation is up, its gains are small compared with some of the other groups.

Fan and romance magazines for women, sold mainly on the newsstands, have also felt the increasing competition for the advertising dollar.

• **Overcrowding**—To some extent, women's magazines have experienced a slowdown for the same reason. But the main trouble for these big publications comes from within. Four big ones in the field make it a plain case of overcrowding. Good Housekeeping's position is probably the strongest (though the figures don't indicate this) because of its merchandising gimmick—the Good Housekeeping Seal of Approval which is placed on some tested merchandise. The demise some years ago of Pictorial Review and the Delineator underscores the crowding in this group.

On the other hand, the supermarket magazines, also aimed at women, have thrived nicely (BW—Feb.9'52,p108). This group has the tremendous advantage of a ready-made and economical distribution setup. This keeps their costs down, gives them a price advantage over the other women's magazines. They are geared, too, to offer service and lessons in how-to-do economics that are valuable in the days of high family-formation and mounting costs. And they are a natural medium for some of the heaviest advertising business—food and cosmetics.

That heavy advertising stress on food and cosmetics is the greatest weakness of the otherwise fast-growing men's group. These magazines lack a firm base for pulling in ads still trained heavily on womenfolk.

• **Summed-Up News**—The news weeklies have registered impressive gains; some of the gains aren't quite so spectacular as they look; the magazines that made them were just starting out in 1939. But a good part of their pros-

Why did it crack?

The original bell cast in England cracked while being tested in 1752. The good citizens of Philadelphia had to melt and recast it twice. First, they put in too much copper for good tone. So they tried again, adding more tin, only to have the Liberty Bell crack years later at a stroke of the clapper.

Back in '76 "blending" copper alloys was hit-and-miss. Today, Chase research removes the guesswork. To be sure, Chase doesn't cast bells. But Chase does turn out sheet, rod, wire, tube and other copper alloy products. And it is Chase research and craftsmanship that make these products meet industry's high standards. Chase Technical Advisory Service will help you choose the proper copper alloy for any manufacturing job.

Chase

The Nation's Headquarters for
BRASS & COPPER

Chase Brass & Copper Co.
is a subsidiary of
KENNECOTT COPPER CORPORATION

CHASE BRASS & COPPER CO., WATERBURY 20, CONN., Warehouses and Sales Offices at:— Albany† Atlanta Baltimore Boston Chicago Cincinnati Cleveland Dallas Denver† Detroit Houston† Indianapolis Kansas City, Mo. Los Angeles Milwaukee Minneapolis Newark New Orleans New York Philadelphia Pittsburgh Providence Rochester† St. Louis San Francisco Seattle Waterbury (†sales office only)

perity stems from the demand for summed-up, capsulized information.

The giants in the business are in the general weekly and biweekly group, a motley one. This contains Life, the No. 1 magazine in both advertising revenue and circulation, and the Saturday Evening Post, the No. 2 publication in revenue. The success of Life and Look seems to contradict the thesis that entertainment is a tough field. Part of the answer seems to be a glamorous format for people with little time for reading. But rising costs make it hard to support a huge circulation for an expensive production. The New Yorker's strength is a good example of selectivity. It has developed its own small niche and hung onto it.

• **Housing**—The postwar scramble for housing practically insured good gains for the home magazines. Better Homes & Gardens, the No. 1 paper in the group, has rolled along on the do-it-yourself trend that the high cost of services has fostered (BW—Jun.14'52, p60). American Home and Better Homes are the practical books for the middle-income groups. House & Garden and House Beautiful have carved out chunks successively higher up on the income scale. Young homemakers are the specific target of Living. Sunset staked the West as its province.

No matter how successful the group, it's clear that the profit trend is uniformly down. National Assn. of Magazine Publishers surveyed 35 publishers of 119 magazines. It found that net profit after taxes in 1943 reached a high of 8.4% of total revenues. In 1951, net profit was down to 3.9%.

Most published figures are consolidated and don't reflect the progress of the individual magazines. But here's how 1951 net profits stacked up against the peak years for a few big ones:

	1951 (in Thousands)	Peak	
Conde Nast..... *Vogue, House & Garden, Glamour*	$1,386	$3,516	(1946)
Crowell-Collier .. *Collier's, Woman's Home Companion, American*	857	6,539	(1946)
Curtis ..... *Saturday Evening Post, Country Gentleman, Holiday, Ladies' Home Journal*	4,850	21,534	(1929)
McCall ..... *McCall's, Redbook, Better Living Pattern Books*	801	3,724	(1946)
New Yorker	543	630	(1950)
Time, Inc..... *Time, Life, Fortune*	7,287	9,009	(1948)

Rising costs are one reason, of course. J. K. Lasser, tax expert and accountant for a large segment of the publishing industry, points out that the magazines' costs are up 100% since 1939. But the chief headache is the same one the railroads have to face—new competition. That doesn't mean magazines will go out. It means they have a big job to do—editorially, and on sales.

Breaking Out the Colors for Yellow Oleo

Yellow oleo marched last week as New York State lifted its ban on colored margarine. Kraft had a 32-truck motorcade lined up at the Holland Tunnel to roll into Manhattan at midnight. Good Luck, Parkay, Nucoa, and Blue Bonnet loosed a shower of spot radio and TV ads plus newspaper space; premiums were a dime a dozen. The State Agricultural Dept., however, reported that by the end of June only 775 restaurants had applied for licenses to serve yellow oleo.

"Cushions" for a top secret baby

Some years ago, Johnson & Johnson's top-flight engineers created a big stir in the industry, when word got around concerning their new "Frankenstein." This was a highly-advanced, wonderfully efficient, surgical dressing manufacturing machine. It became Top Secret. Only trusted employees ever saw it.

However, the designers were soon faced with a major problem. *Vibration.* And until this was solved, costly repairs and maintenance were an ever-growing problem. Johnson & Johnson called upon Vibration Eliminator Company for help. Top vibration engineers studied the problem. To meet it, they designed a cushioning mount which utilized a rubber compound especially developed by Firestone.

After installation was made, these Top Secret machines have purred along as smoothly as silk. Production has risen. Maintenance costs were sliced to a minimum.

Have you a problem? Do you need a compound to cushion, protect, wrap, or waterproof? Would increased resistance to abrasion, oil, heat, acid or steam help make your product better? Would elimination of vibration, noise or shock benefit your business? If so, we suggest you write and let our rubber research engineers help solve your problem. In many cases this can be done with a stock part; in others with a specially designed unit. ***Write Firestone, Dept. 3A, Akron, Ohio.***

Firestone Techni-Service *pays off again*

Enjoy the Voice of Firestone, Monday evenings on NBC Radio and Television

1-lb. 95¢ | fifth $3.96 | 200 sheets 19¢ | 16-oz. 25¢
½-lb. 53¢ | pt. $2.48 | 24 sheets 5¢ | 10-oz. 17¢

Swing to Small Packaging

More manufacturers are putting out their products in half-size packages, as small family units forsake the "economy size."

Manufacturers of toothpaste, crackers, and other consumer products have been ballyhooing large-size containers for so long that the phrase "large economy size" has become an Americanism. Now a counter-trend is developing towards the small and—in many cases—uneconomical size.

Reasons vary as to why people prefer to buy the smaller-size instead of the regular-size container. But whatever the reason, since World War II, all kinds of products have been going into half-size or smaller-size containers—everything from coffee, bread, and soups to tissues and cement.

One of the outstanding examples of this trend is Publicker Industries' current stress on the pint bottle of whiskey. Publicker has sought to dignify the pint size by changing its shape from the flask to the round bottle (picture).

• **Price Incentive**—The hike in federal excise taxes on liquor last November helped to depress whiskey sales. It generally resulted in a 10% rise in prices at retail level, and this helped to drive out marginal customers. It also built a fire under the trend towards the pint and half-pint sizes that had been gathering momentum since pre-war. In the first four months of 1952, the two smaller sizes accounted for 43% of whiskey bottling by volume as against 36% in 1951.

Publicker wants to build up this market. So it has thrown away the flask-shaped bottle—long associated with vagrants and alcoholics—and replaced it with its "hostess" bottle, a replica of the regular fifth. Publicker's liquor costs about the same, whether you buy it by the pint or the fifth.

• **Freshness**—Another reason for the swing to smaller sized packages is the willingness of small families to pay a little extra for freshness—as in the case of coffee and bread. That's the market Beech-Nut Packing Co. hopes to reach with its half-pound can of coffee. Since the company introduced its new container size a few months ago, it has found that it goes over big in metropolitan centers.

Another company that is capitalizing on the small family unit is the H. J. Heinz Co. Since the war, it has introduced 6½-oz. cans of beans, macaroni, spaghetti, chile con carne, and other products that normally come in 16-oz. cans.

• **Convenience**—International Cellucotton Products Co. had still another reason for putting out its Pocket Pack container of Kleenex three years ago: convenience. People find the packs easy to stick into their pockets and more and more mothers give them to the children instead of handkerchiefs.

• **More Profit**—In many cases, of course, consumers pay more this way. It usually costs more for the containers and for packing and shipping. At the same time, the manufacturers' profits are usually greater—that is one reason they like the trend.

Hot Over Oil

Re-refiners should stop calling their product good as new, say refiners, or else pay the six-cent tax.

The business of re-refining lubricating oil is riding high on a wave of publicity that shows signs of backfiring on the promoters—the re-refiners themselves.

In its June issue, True magazine ran a red-hot article plugging the product. The re-refiners picked up the article, made promotion fodder of it in the Washington, D. C. newspapers.

All this publicity put steam under a little-known but important controversy: Should the re-refiners pay the same 6¢-per-gal. tax on their product that the oil companies have to pay on the oil they sell? Such a tax, the re-refiners say, would be a terrific blow, maybe put a lot of them out of business.

• **Laundering Oil**—The business of re-refining, or laundering, lubricating oil is built on the simple fact that oil never wears out. It burns, or gets dirty, or becomes contaminated with acids and other chemicals—but the oil itself never loses its lubricating qualities (BW—Nov.13'48,p56).

The Air Force—as well as truck and bus fleets—clean the used oil, neutralize the acids, and otherwise treat it, then use it over and over again.

• **Output Up**—Re-refined oil production is up to perhaps 65-million to 75-million gal. this year, against about 60-million bbl. of 42 gal. each last year of virgin lube oil.

What burns the oil companies up is that the re-refiners don't pay the 6¢-a-gal. excise. This gives them a tremendous competitive edge over virgin lube oil, for which a buyer pays around 30¢ per gal. at wholesale. The refined people get about 6¢ a gal. less.

The re-refiners insist that they need this edge in order to overcome the public's resistance to their product. They say it's only through the price advantage—based on the tax advantage—that they are able to stay in business.

• **How Come?**—How the re-refiners avoid paying the tax is one of these red-tape affairs that somehow never add up. The law imposes the tax on manufacturers of lubricating oil. And the re-refiners seem to be completely covered by the Bureau of Internal Revenue definition of a manufacturer. The regulations say a manufacturer includes " . . . any person who cleans, renovates, refines, used or waste lubricating oil by any method or process

which produces an oil substantially equivalent to new lubricating oil." However, court tests have wound up in favor of re-refiners.

Now, the oil refiners are stepping up the pressure on BIR, too. They want to pin the question down so that either (1) the re-refiners pay the tax if they are permitted to say their oil is equivalent to virgin oil, or (2) if they don't pay the tax, then they can't say the product is as good as new oil.

• **Labeling**—The refiners are using a ruling in a recent Federal Trade Commission case as a lever on BIR. FTC charged Dabrol, Inc., Chicago re-refiner, with misleading advertising when the re-refiner labeled his product as being made of Pennsylvania crude. Dabrol lost out—but expert witnesses and company officials testified under oath that the product was just as good as new oil.

In at least one other case, FTC has ordered a re-refiner to stop advertising or selling his oil without disclosing that it is reclaimed or reprocessed oil. This re-refiner called his product Penolube Motor Oil.

Another point of pressure comes from the states. About a dozen states have put through legislation requiring oil to be labeled as reclaimed or used.

MARKETING BRIEFS

Another fair trade prop has been kicked out by the Michigan supreme court. Fair traders had contended that resale price maintenance laws bound non-signing merchants where the goods involved originated within the state. Now the Michigan court has decided in favor of a Michigan merchant (Lippman's, a Detroit sporting goods dealer), sued by a Michigan manufacturer (Shakespeare Co.) for price-cutting. The court held that intrastate and interstate commerce could not be separated in this case because of similar sales to out-of-state customers.

•

"New and secret" process has been announced by Birds Eye Division of General Foods to cure the big problem with concentrated orange juice: its tendency to separate after it has been reconstituted. Birds Eye says that its process makes it possible for juice to be kept in the refrigerator for "as long as 72 hours without separation and without loss of vitamin content and flavor."

•

The hard-sell in appliances: RCA Victor is running the heaviest advertising schedule in its history. . . . Raytheon is offering dealers an extra margin to enable them to take obsolescent TV models as trade-ins.

The dictating machine that revolutionized the industry!

—in office after office, proved EASIER TO USE, LOWER IN COST

Heard what's happening today in dictating machines?

In city after city, test after test, business after business, Gray Audograph is *proving* that it does more, costs less, is easier to use.

In five short years since Audograph's introduction it has rocketed to a leading position in the industry—and it's still climbing.

Audograph does more. Takes up to a solid hour's dictation on one paper-thin plastic disc which can be filed or mailed—and can be resurfaced up to 50 times. Rugged, vibration-proof Audograph operates serenely most anywhere: in car, train, plane or ship—even upside down! Versatile Audograph records telephone calls, meetings, speeches.

Audograph is easier to use. Designed by electronic specialists, Audograph eliminated belts, bulk, turntables, revolving cylinders and moving arms. Electronic dictation the Audograph way is as simple as telephoning!

Audograph costs less. Lower in first cost, lower in maintenance cost than any other leading dictating machine — Audograph will welcome the opportunity to show you important savings in money and time, in *your* office, on *your* work.

You'll want the full story on this standout dictation instrument. Clip and mail the coupon today for the eye-opening facts. No obligation of course.

Get the Audograph story toda

The Gray Manufacturing Company,
Hartford 1, Connecticut

Please send me your new **Audograph** Booklet Y-7 with the facts on electronic dictation.

NAME _____

TITLE _____ FIRM _____

STREET _____ CITY _____

AUDOGRAPH sales and service in 180 U.S. cities. See your Classified Telephone Directory under "Dictating Machines." Canada: Northern Electric Co., Ltd. Abroad: Westrex Corp. (Western Electric Co. export affiliate) in 35 countries. *Audograph is made by The Gray Manufacturing Company — established 1891 — originators of the Telephone Pay Station.*

PATTON-48, in production at three arsenals, is just one of weapons giving U.S. . . .

Push-Button Arms at Last

Push-button warfare has been widely called a reality ever since the end of World War II; the favorite joke has been that all the U.S. had was the buttons. In recent weeks, though, the military services have announced new weapons which give the buttons something to control. New electronically controlled airplanes and better tanks have been appearing in rapid succession.

Here are a few of the new weapons announced in the past month:

• The Lockheed F-94C Starfire, the first jet armed wholly with rockets (BW—Jul.5'52,p33), is faster and more automatic than anything announced before in any country.

• The first "completely new" medium tank, the M-48. It has more power than any comparable tank but handles as easily as an automobile (BW—Jul.5'52,p31).

• A new range finder that makes tank gunnery more accurate than had been possible before has been announced by General Motors and Chrysler.

• A new lens, revealed by Bausch & Lomb Optical Co., permits aerial cameras at a given altitude to photograph three times as large an area as previously.

The U.S. does not reveal data on any new military gadget until development has already gone well beyond it. So the announcements are only a small indication of what is now on the drawing boards or in the shops.

• **On Its Own**—The new jet airplane, the Lockheed F-94C Starfire, comes the closest to making push-button warfare a reality. The pilot and radar operator take the plane off the ground and fly it to the general area of the target. From there on the plane is on its own. The electronic brain spots the enemy plane, which is probably invisible to the pilot and radar operator. Then the brain leads the Starfire into a path following its target. Electronic controls aim the nose of the plane for proper firing of the rockets, allowing for speed and wind and all other variables. When the Starfire is close enough to the target for the rockets to do their job, the brain fires them automatically. After one enemy is down, the pilot and radar operator can either pick out another target for the electronic controls to destroy, or they can take the plane back to its base.

Radar helps the Starfire pilot even in getting off the ground and flying to the attack area. Ground radar, which originally spots the intruders, guides the plane to the target area. Automatic landing systems will help the pilot get back on the ground if his base is wrapped in darkness or bad weather.

• **Boosters**—Automatic controls, designed by Westinghouse Electric Corp., have made the pilot's job easier in another way. New planes like the F-94C are so fast that considerable force is required to move control surfaces such as elevators, ailerons and rudder. Therefore, hydraulic boosters have been added to these controls, multiplying the pilot's effort 15 times. The automatic pilot or electronic brain operates through these same boosters to control the plane in combat.

Lockheed, Westinghouse, and Sperry —which makes the flight director—have adapted the best existing use of the principles of radar, electronic computers, and gyroscopes. Separately the ideas are outgrowths of World War II developments. But the tie-up used in the Starfire is the most efficient combination of them that has been announced to date.

The new plane is the first American fighter to be armed only with rockets. Each of the 24 air-to-air rockets housed around the radar equipment in the special nose are capable of knocking down an enemy bomber. Additional rockets may be hung in armament pods under the wings.

• **Range Finder**—The other newly announced additions to the defense line do not have the automaticity of the Starfire, but they are formidable in their own right. The T-41 tank range-finder, announced by both General Motors and Chrysler, is a complex mixture of optical, electronic, and mechanical systems. Working with it, the tank gunner gets help in sighting a target, figuring the range and tracking the target. This assures more accurate firing. The T-41 also gives a constant check of the type of ammunition for which the automatic controls are set. This is a flag to the gunner to change the setting when changing ammunition. It also provides a means of estimating the error on previous firings to assist the gunner in correcting on his next shot.

• **One-Piece**—The biggest tank innovations in the M-48, or Patton-48, are

special steels take talent, too

Natural aptitude, years of study and a talent for simplifying the difficult are all essential in the jobs of metallurgy and engineering at Crucible. That's because Crucible's specialty steel activities are different from what we ordinarily associate with *Steel*. For Crucible's most *usual order* often times calls for a most *unusual application* of steel.

For example, analyze the myriad parts that make great organ music possible . . . and you'll find Crucible special steels used in pumps, tubing, springs, valves, magnets, lamps and studs. The list of Crucible special steel applications is long — from atomic energy plants to precision, surgical instruments; from television sets to cafeteria trays; from juice evaporators to jet engine assemblies.

The range of Crucible's special purpose steels is constantly increasing to meet industry's ever-growing demands. Gain from Crucible's more than half century of specialty steel leadership . . . this experience is at your call.

CRUCIBLE first name in special purpose steels

52 years of Fine steelmaking

CRUCIBLE STEEL COMPANY OF AMERICA, GENERAL SALES OFFICES, OLIVER BUILDING, PITTSBURGH, PA.

MIDLAND WORKS, MIDLAND, PA. • SPAULDING WORKS, HARRISON, N. J. • PARK WORKS, PITTSBURGH, PA. • SPRING WORKS, PITTSBURGH, PA.
SANDERSON-HALCOMB WORKS, SYRACUSE, N. Y. • TRENT TUBE COMPANY, EAST TROY, WISCONSIN • NATIONAL DRAWN WORKS, EAST LIVERPOOL, OHIO

in body design. The sloping elliptical hull and turret are designed to make enemy shells bounce off. By causing the shells to glance off, it reduces the chances that the tank's armor will be ripped by the explosion. A lower, more streamlined silhouette makes the tank harder to hit.

The M-48, being built at Chrysler's Delaware tank plant and two other arsenals, shows another major innovation. It is the first tank to use a one-piece cast hull. The turret is also a single casting. This speeds production and permits the tank to operate more efficiently under adverse conditions. In a test the tank successfully passed a 4-ft. deep water hazard, a 3-ft. vertical wall and an 8-ft. wide trench.

The 90-mm. high velocity gun on the M-48 has a removable tube. A worn liner in the gun barrel can be replaced with simple tools, without sending the tank back to the rear. The 50-cal. machine gun, mounted on top of the turret, can be loaded, aimed, and fired from inside the tank.

• **Distortion**—The new Bauch & Lomb lens not only triples the area of an aerial photograph, but almost completely eliminates the distortion common with wide angle lenses. The lens is so clear that a photo from an altitude of a mile can show separate railroad ties anywhere within a two-mi. radius beneath the plane.

Now that these new weapons have become realities, the military designers are turning their attention to improving production techniques, like the single casting technique used in the new M-48 tank. A prime objective is the development of a single step for making turbine rings for turbo engines. Today the individual turbine blades are separately machined and then fitted together. A single manufacturing step would speed production and greatly reduce costs.

Huge forging and stamping presses are being built with the hope that large sections of wings can be made in a single operation. Today wings require a long, tedious assembly operation. The British have successfully used bonded resin for surface construction on aircraft to replace rivets. And the United States is also trying to develop this technique.

• **Stronger**—As the speeds of military equipment are increased and the firepower is doubled or tripled, the boundaries to human endurance are rapidly being approached. The creating of electronic brains and hydraulic boosters is no frill, but a necessity. The same thing goes for the physical demands on the modern equipment. Better production methods and better or lighter metals, such as titanium, are needed to meet the rugged requirements of new equipment.

this "sleeve" gives valves a steady hand

For clock-like precision in up-and-down motion, valve tappets require smooth-as-glass guides—"sleeves" tailored to 5/10,000 of an inch for snug, exact fit. For such precision work with a variety of products, leading manufacturers depend on Lycoming's production skill and resourcefulness.

Whether you require precision machining, high-volume production, product development—or air-cooled power for aircraft or ground applications—look to Lycoming! Long famous for aircraft engines, Lycoming offers extensive facilities and well-rounded experience.

To function precisely, an aircraft engine valve needs steady tappets. For a "guide" to steer tappets true, **Pratt & Whitney Aircraft called on Lycoming for precision production.**

For a more complete story on Lycoming's varied activities and facilities, write—on your company letterhead—for the interestingly illustrated booklet "Let's Look at Lycoming."

AIR-COOLED ENGINES FOR AIRCRAFT AND INDUSTRIAL USES • PRECISION-AND-VOLUME-MACHINE PARTS • GRAY-IRON CASTINGS • STEEL-PLATE FABRICATION

LOOK TO **LYCOMING** FOR RESEARCH FOR PRECISION PRODUCTION

LYCOMING-SPENCER DIVISION, WILLIAMSPORT, PA.
BRIDGEPORT-LYCOMING DIVISION, STRATFORD, CONN.

AVCO MANUFACTURING CORPORATION

THE PRODUCTION PATTERN

EVERY YEAR government research grows by leaps and bounds. Many industry men are losing sleep over its effects on their own operations.

You can see why they are worried when you compare industry's budget for research with the government's. This year industry will spend about $1-billion. The government will probably earmark between $1.6-billion and $2-billion. The government's appropriations will support perhaps two-thirds of the nation's total research work.

ONE CONSOLATION to industry may be this: 70% of the government's tab is for defense projects, work which is expendable, and which won't invade industry's fields or compete with its own developments. To develop a piece of defense gear, for example, government researchers will sometimes work on five similar projects, finally pick the best one and scrap the other four. So, much of the 70% is harmless to industry.

But government research competes with industry in other ways that hurt.

First, and probably most important, is manpower. Industry is already plagued by a growing shortage of science and engineering graduates.

IN MOST CASES the government can't match industry salarywise. But it does outweigh industry with other indirect attractions. A government job has security: If it's critical enough the job is also security against the military draft. Under civil service schedules, a government spot can often offer faster promotions, although not more money, than industry.

Furthermore, any young scientist and many engineers have a yen for basic research. Government research is heavy with pure fundamental work, projects that search for the essential and basal reasons which make nature tick. But only the larger private companies can afford big-scale basic research; even then it is doled out to only a small staff.

AT LEAST two industries—atomic energy and synthetic rubber—owe their very existence to government research. The government also competes with industry in several other fields: metals, coatings, and lubricants.

John C. Green, director of Commerce Dept.'s Office of Technical Services, gave this explanation of the AEC problem to Chemical Week, a McGraw-Hill publication: "The work . . . of the Atomic Energy Commission is almost too easy an example of government dominance of a scientific field. Yet, what industry can perform significant research independent of the commission?"

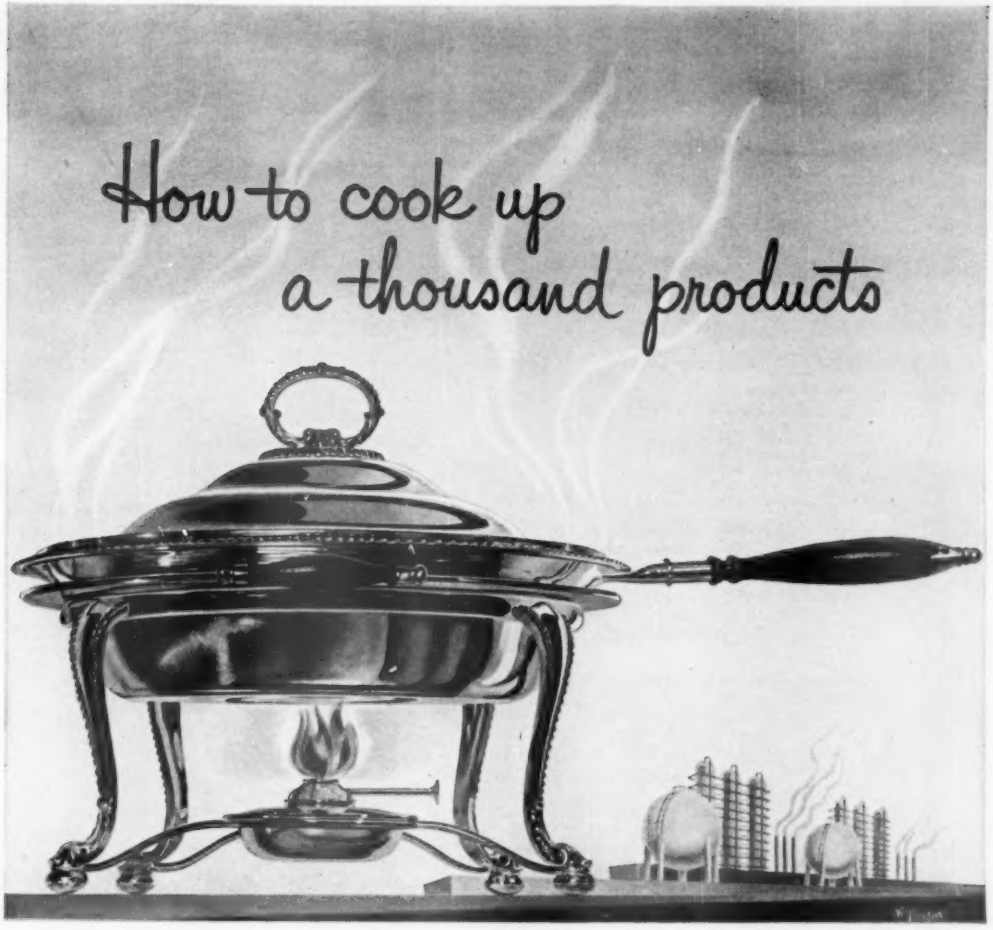
THE REALIZATION that the U.S. doesn't have everlasting natural resources has brought government research into fields that are normally industry's bailiwick. Often it is directly competitive. Take titanium metal. Applications of this metal would normally be explored by private companies. And a healthy amount of private development is going on. Yet, titanium's uses in ordnance, aeronautics, and other defense fields justify the present government-sponsored work.

"No well-run manufacturing organization," Green says, "is going to embark on titanium research without an awareness of the government's efforts, if only to avoid a needless expenditure of funds and facilities."

WHAT CAN INDUSTRY DO, besides chew its nails? Green's prescription: "First develop an awareness that this is a problem which both sides—government and industry—must cooperatively attack. Then accept offered membership on government research advisory committees which plan many of the programs and policies governing work undertaken. Through these committees industry will be able to offer sage counsel and a restraining hand when needed."

"Next, those in industry who plan research and put its results into commercial use should take better advantage of the government work. This $2-billion research package develops a tremendous volume of information which is not tied up in secrecy and therefore is available to industry as a dividend from the substantial tax burden."

How to cook up a thousand products



USING alcohol in the recipes, industry now produces thousands of useful products—from plastics to rocket fuels, rayon to rubber. Demand for alcohol is often ahead of supply, even though production has expanded over the years.

One important *new* source is the process which Shell chemists developed using ethylene gas, a product of petroleum cracking.

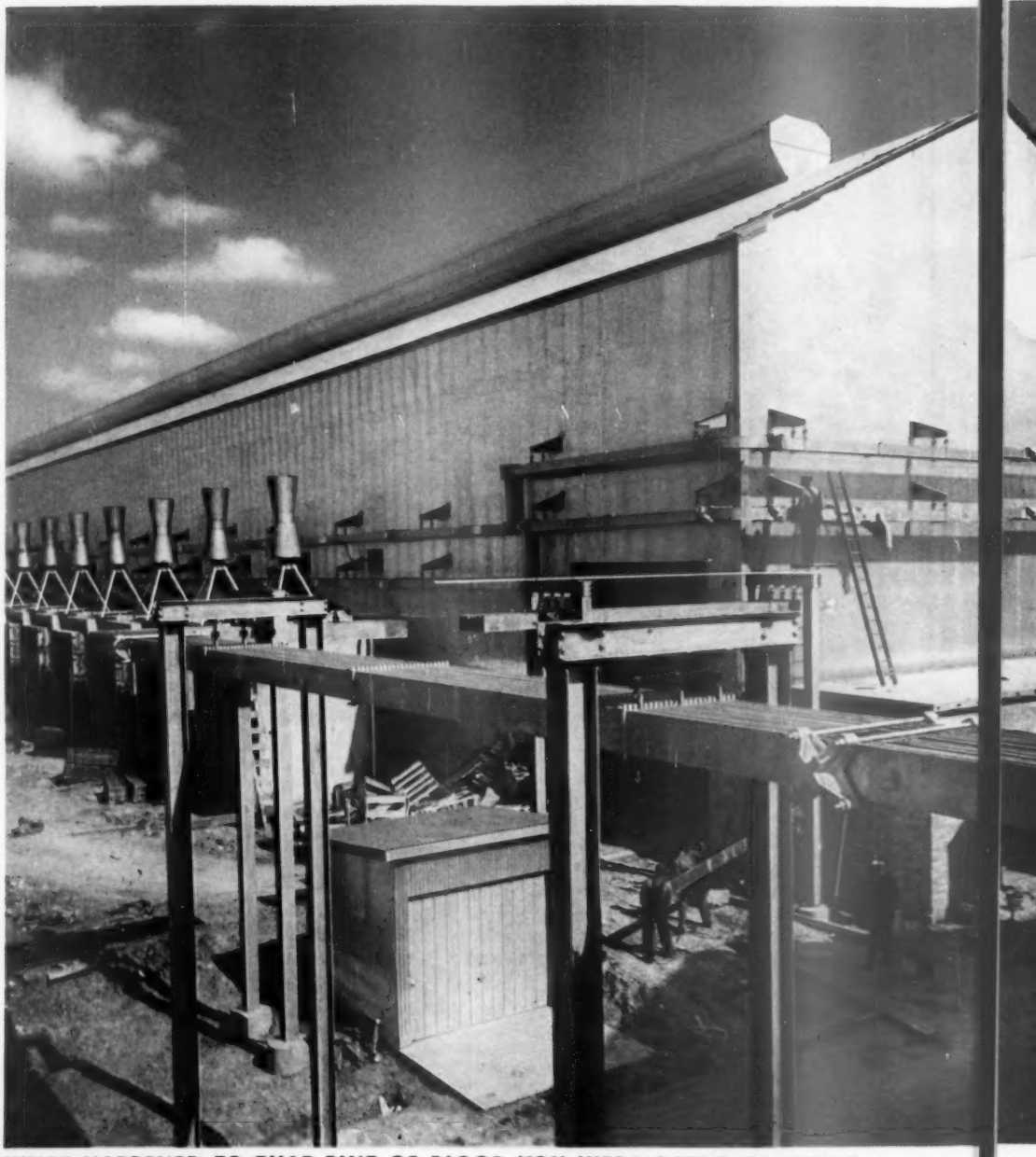
In the Shell Chemical alcohol plant, ethylene is combined with plain water—a far from simple process—and the result is ethyl alcohol that meets the highest industrial standards.

Making ethyl alcohol from petroleum is another example of Shell Chemical's partnership with industry and agriculture. Application of petroleum chemistry to your needs is our constant purpose.

Shell Chemical Corporation

Chemical Partner of Industry and Agriculture

ONE BILLION POUNDS



WHAT HAPPENED TO THAT PINT OF BLOOD YOU WERE GOING TO GIVE ?

OF ALUMINUM coming up!

We took this picture to show you part of what we're doing about the aluminum America needs.

You see in it a few of the thousands of men who have worked the clock around to complete Alcoa's new plant addition at Point Comfort, Texas. Now in operation, it started February 28, well ahead of schedule. Our big Point Comfort plant is the only aluminum production capacity built in the United States during the peacetime years from 1945 to 1950.

This addition will raise its enormous capacity by 50%.
Together with present plants, this and the four others we are building will bring Alcoa's production of aluminum up to more than one billion pounds yearly.

On paper, that figure is big, but cold.
In the lives of Americans, it translates into airplanes, mess kits, and serum containers. Into farm sprayers, barn roofs and irrigation pipe. Into tank cars, power lines and kitchen ware. *Four times as much aluminum for all of them as Alcoa produced the year before Pearl Harbor.*

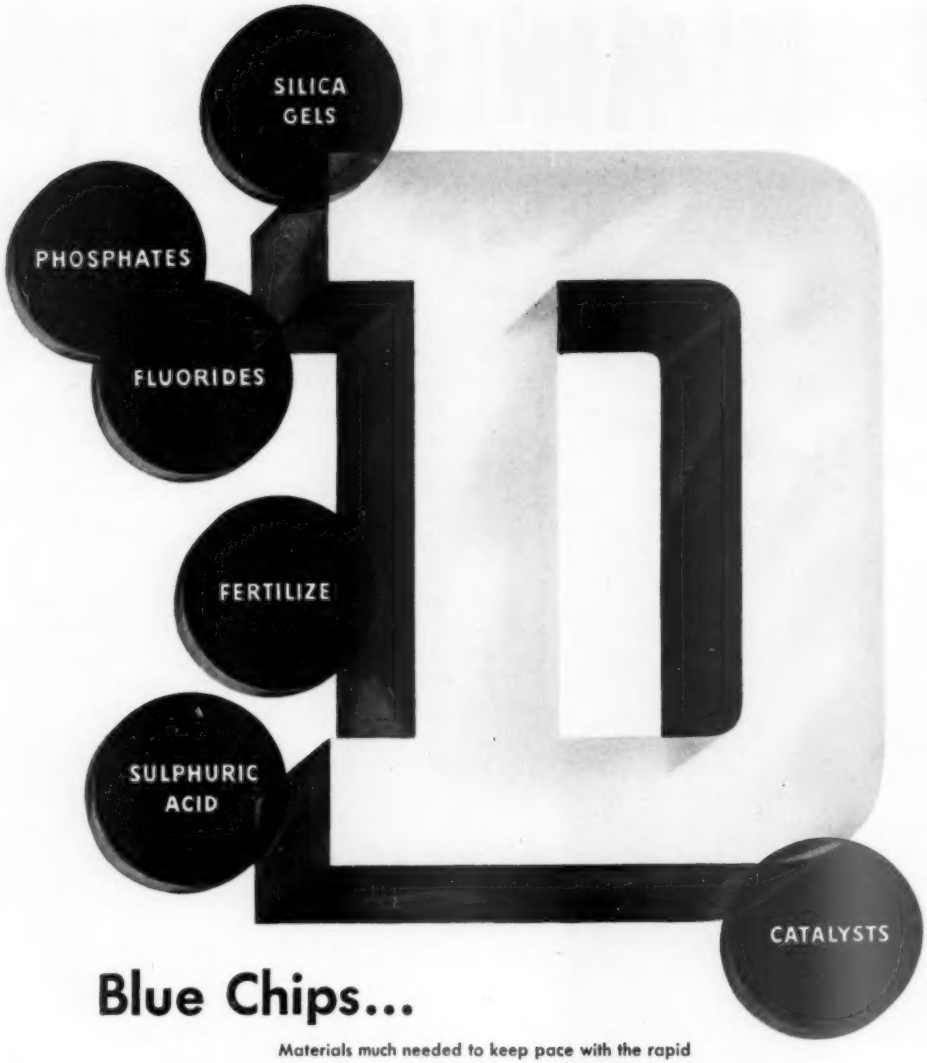
As America's needs for aluminum grow, they are being paralleled by the efforts of the men and women of Alcoa to meet them.

ALUMINUM COMPANY OF AMERICA
Gulf Building • Pittsburgh, Penna.

Alcoa Television—CBS Network, 6:30 to 7:00 P.M. EDST every Sunday on most stations—8:30 to 9:00 P.M. in far West

The best things in aluminum come first in

ALCOA ALUMINUM



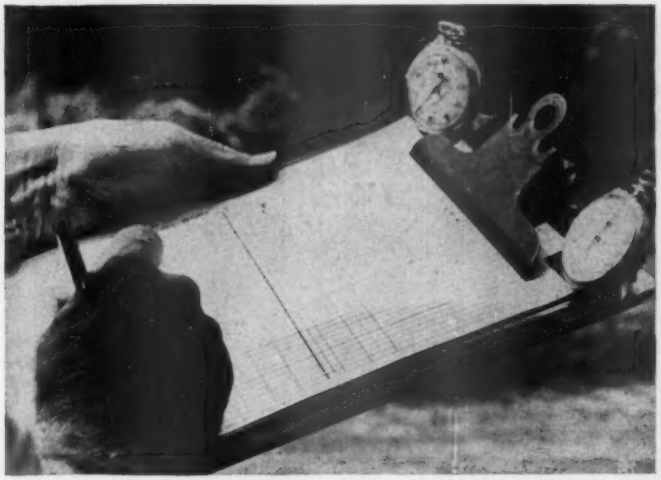
Blue Chips...

Materials much needed to keep pace with the rapid changing world of today are produced through the ever growing field of chemistry. Davison is constantly adding to their "blue chips" in this great industry through continuous research and development. That is why leaders in industry and agriculture turn to Davison. They know the Davison "D" means dependability!

PROGRESS THROUGH CHEMISTRY

THE DAVISON CHEMICAL CORPORATION
Baltimore 3, Maryland

PRODUCERS OF: CATALYSTS, INORGANIC ACIDS, PHOSPHATES, PHOSPHATE ROCK, SILICA GELS, SILICOFLUORIDES AND FERTILIZERS



U.S. Holds Stopwatch on . . .

. . . State Roadbuilding Costs

Private contractors and state road-building forces are locked in a contest near Asheboro, N. C., that may determine how hundreds of millions of federal and state highway dollars will be spent in years to come. For behind the contest is this question: Should the federal Bureau of Public Roads let states build federal-assistance roads with their own equipment and labor instead of farming jobs out to contractors?

North Carolina happens to be the test state because it kicked over the traces three years ago and started building its own roads. Contractors set up a howl, and the issue got really hot when the state asked BPR for permission to put its crews to work on federal-aid highways as well as purely state roads.

• **Contest Rules**—BPR finally agreed to act as referee in a contest. The lineup: North Carolina Highway Dept. vs. the state's private contractors. The issue: which can build roads cheaper? The prize: nationally, the $500-million that BPR spends in federal-aid secondary roads each year.

BPR set up 15 projects in the Sixth Highway Division, a nine-county area with headquarters in Asheboro. Of the 15 projects, eight will be awarded to private contractors on the basis of low bids; seven will go to the state's own highway forces, which will estimate on all 15 jobs. All 15 projects have the

CONTRACTORS COMPLAIN that state should have salvaged, not destroyed this corrugated pipe, and that . . . . . This slope is an example of failure of state roadbuilding forces to follow specifications enforced on private firms.

same specifications; they range in size from 5 mi. to 12 mi.

So far, seven awards have been made, four to private contractors and three to the state highway department. Average low bids by contractors are running about $18,000 a mi. while estimates run about $12,000.

• **The Umpires**—BPR has sent 18 or 20 field men into the Sixth Highway Division to keep tabs on the work. In teams of two, these engineers check every cubic foot of earth moved, every piece of equipment in operation. Timing devices are installed in each piece of heavy equipment. Other operations, such as loading, hauling, and dumping, are carefully timed by teams of engineers using sets of stopwatches (pictures, page 57).

Engineers are charged with the responsibility of finding out who is doing the cheaper job and of making sure both sides live up to the specifications. The state and the private contractors also have their own engineers checking up on the projects.

When the projects are finished, probably by yearend, the BPR engineers will send their reams of data to Washington for evaluation. Results of the contest are expected to be announced early in 1953.

Such a detailed study hasn't been made by the government since the Alaskan Highway was built, contractors say. They think it is long overdue.

• **Both Sides Confident**—As the work goes along and more project awards are made, both sides are confident of winning BPR's nod.

George Coble, commissioner of the Sixth Highway Division, and P. G. Poindexter, his division engineer, believe that the state forces will do their jobs "probably under our own estimates." On the other side of the fence, Robert Patten, managing director of the Carolinas Branch of Associated General Contractors, is sure the contest will "prove once and for all that the contractors can do the job better and cheaper."

• **Turnabout**—Until 1949, Tar Heel State contractors handled about 80% of the state's roadbuilding work. Then W. Kerr Scott, a folksy, plain-talking man, won election as governor on a platform of better roads, better utilities, and better schools. Gov. Scott immediately pushed a $200-million bond issue for the paving of 12,000 mi. of secondary roads.

The state's private contractors happily got behind the bond issue in the expectation of getting 80% or so of the work. But when the issue was approved by the voters, the State Highway Commission promptly bought $5-million worth of heavy roadbuilding equipment.

The contractors screamed and, at one point, even got a temporary injunction against the equipment purchase. They couldn't keep a wrench in the machinery, though, and the state went ahead with its plans to do its own work.

• **Counter Charges**—State highway officials declared that private contractors' bids had been excessive. "We can do the same work at half the cost," one official told an irate group of contractors.

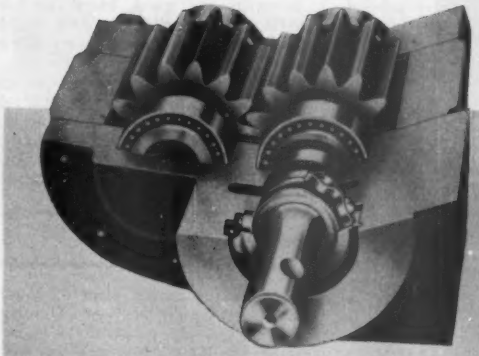
Contractors came back with charges that the state's forces did slipshod work that didn't meet specifications. Nello L. Teer, Jr., vice-president of Nello L. Teer Co. of Durham, N. C., one of the South's largest roadbuilding companies, led the attack on "haphazard, lackadaisical" work by state forces "with no regard for specifications."

Besides, the contractors charged, the state's cost estimates didn't include all the things a private contractor has to allow for.

"The state doesn't have to pay license fees, gasoline taxes, sales taxes, excise taxes, insurance, bonding fees, central office costs, and doesn't include in its estimates what it costs to set up pension and retirement plans for its work-

"Lean Carilloy alloy steel is saving us $40 a ton with no loss in performance."

—T. C. Kane, Chief Engineer,
Commercial Shearing & Stamping Co.



IN THESE ROTARY PUMPS made by Commercial Shearing & Stamping Co., oil is trapped between the teeth of two meshing gears. Speeds are exceptionally high, and the gears must be tough and durable. Lean Carilloy alloy steel meets service requirements and lowers costs.

THE GEARS are machined directly from round bar stock. First step is hobbing, shown below.

Commercial Shearing & Stamping Co., of Youngstown, Ohio, is another manufacturer who, unable to obtain rich alloy steel, is now using *lean* alloy steel for heavy-duty parts that must operate in extremely tough service. Here is their experience, as told by Mr. T. C. Kane, Chief Engineer:

"We used to make the gears for our heavy-duty gear-type hydraulic pumps out of a rich alloy steel, Carilloy 4615 (1.65-2.00% nickel). But when nickel started getting scarce we had to find a steel in better supply that would stand up in really hard service.

"Our pumps operate at pressures as high as 1,500 psi and at speeds up to 2,000 rpm. Gear wear of only 0.005 inch causes a substantial drop in pump efficiency; so we need a tough, wear resistant steel for the gears. The question was, could we get the necessary properties in a *lean* alloy steel?

"U.S.S Service Metallurgists helped us out. They recommended Carilloy 5120, a straight-chrome alloy. We are frankly surprised at the excellent results we're getting with this steel. Not only do the gears meet all of our high performance standards but this lean alloy steel is easier to machine and heat treat. And we pay a lower grade extra on it. All told, the change to lean alloy steel saves us $40 on every ton of steel we buy."

• • • •

The switch from rich to lean alloys is not always as easy as it was at Commercial Shearing & Stamping Co. You may require special heat treating, or simply more *careful* heat treating, to obtain desired mechanical properties. But whatever your steel problems, our metallurgists will be glad to help you with them. Just call our nearest District Sales Office, or write to United States Steel, 525 William Penn Place, Pittsburgh 30, Pa.

UNITED STATES STEEL COMPANY, PITTSBURGH • COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA. • UNITED STATES STEEL SUPPLY DIVISION, WAREHOUSE DISTRIBUTORS, COAST-TO-COAST
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

U·S·S Carilloy Steels

USS

2-1437

ELECTRIC FURNACE OR OPEN HEARTH COMPLETE PRODUCTION FACILITIES IN CHICAGO OR PITTSBURGH

UNITED STATES STEEL

ers," said an officer of Associated General Contractors.

• **The Record**—By last January, the state had spent $126½-million of the $200-million bond issue, with the state doing 57.1% of the work and private contractors accounting for 42.9%.

In the Sixth Highway Division, the figures were even more lopsided. Commissioner Coble, Lexington (N. C.), dairyman and good friend of Gov. Scott, had parceled out 74% of the work to the state's roadbuilders, leaving only 26% to the private contractors.

It was in this district that the quarrel between private contractors and the State Highway Commission came to a head when Coble asked BPR if it could put the state forces to work on some 15 federal-aid highways in the district.

PRODUCTION BRIEFS

The chlorine caustic plant at Muscle Shoals, Ala., operated by Monsanto Chemical Co. for the Army's Chemical Corps, went into full-scale operation this week. Banks of cells convert salt brought by barge from Louisiana into chlorine, caustic soda, and hydrogen.

•

A new method for odorization of liquefied petroleum gas, has been developed by J. B. Calva & Co. of Minneapolis. The odorant is added to the gas by inserting a small cartridge into a cavity built into the cylinder valve.

•

Fansteel Metallurgical Corp. this week reduced prices from 11% to as much as 46% on its line of seamless molybdenum tubing. Expansion of facilities and large demand made the price cuts possible. Fansteel tubes, first produced on a commercial scale in 1950, are used for electronic tubes, jet engine parts, and chemical process equipment.

•

Alcoa has developed an aluminum alloy cladding that may help aluminum replace hard-to-get copper in automobile radiators. The material, called No. XA30 Brazing Sheet, has been found to stand up well against corrosive action of water in automobile radiators. . . . General Motors Research Laboratories have come up with Aldip, a new process for coating steel and other ferrous metals with aluminum. Aldip also resists rust and in some cases acts as a heat-resistant material.

•

American Airlines has begun regular use of its Magnetronic Reservisor (BW—Jun.3'50,p46). This electronic device keeps a record of all seat bookings and almost instantly tells any of American's 100 agents whether or not there's a seat available on any of their 3,000 flights a day.

FOR CUTTING DOWN PAPER WORK ...OZALID HAS THE ANSWER!

This Amazing New Desk-Top OZAMATIC makes low-cost, high-speed direct copies of almost anything typed, written, drawn or printed!

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No Retyping . . . No Messy Inks . . . No Stencils . . . No Plates . . . No Darkroom . . . No Negatives!

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No Proof-reading . . . No Poor Carbons . . . No Smudge or Distortion . . . No Drying . . . No Waiting!

Here's How the Ozalid Process Is Saving Labor and Money in a Wide Variety of Business Applications!

Accounting. A major railroad cuts costs over $30,000 per year in computing payrolls by using Ozalid copies of train dispatchers' reports to check against trainmen's time record cards.

Production Control. A printing press manufacturer saves *two full weeks* in processing paperwork for each production run, and has speeded up entire manufacturing operation from supplier to customer.

Inventory Control. A big drug chain uses the Ozalid process to maintain an accurate, up-to-date check on inventories.

Purchasing. A manufacturer reports savings of $8,000 a year through using Ozalid in procuring supplies.

Any girl in your office can learn to use the OZAMATIC in five minutes! This streamlined desk-top machine makes positive, ready-to-use Ozalid copies up to 16 inches wide—*any length you wish*—at speeds up to 30 feet per minute. Your first copy is ready in seconds, or you can have 1,000 letter-size copies an hour at a cost of less than 1½¢ per copy!

The Ozalid process copies letters, reports, invoices, orders and drawings on ordinary translucent materials. Opaque originals require a simple intermediate step. Larger machines are available for wider copies and greater production capacity.

Send today for full details, or call the Ozalid distributor listed in the classified sections of your phone book.

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Johnson City, N. Y. A Division of General Aniline & Film Corp. *"From Research to Reality."*
Ozalid in Canada—Hughes Owens Co., Ltd., Montreal.

NEW PRODUCTS

Device Rescues Drills From Peril of Breaking

Drills often break in making deep holes. But Bellows Co. thinks it has found a cure. The device is called a "Sensitorque" Drill Press Feed; it measures the torque on the drill. Thus it "senses" what's happening at the bottom of the hole, and sees that the drill is withdrawn when the strain approaches the danger point.

The unit can be installed on any standard drill press, although it was developed for the Bellows Model DFE 2-540 Drill Press Feed. This is how it works. When a drill—even as small as .094 in.—becomes clogged with chips, runs dry of coolant, hits a blowhole, or gets stuck in any way, an electrical impulse is sent instantaneously to the Drill Press Feed. The Feed withdraws the drill, then rapidly returns it to working position. The drill is raised only as often and as high as is necessary to avoid trouble. By eliminating needless withdrawals, Sensitorque can cut down on production costs.

On the way down after a withdrawal, the drill point does not hit the bottom of the hole with a shattering impact. A special hydraulic control eases it gently to the work. The unit can be set up to react to drill torque all the way from minimum to maximum power. The manufacturer claims it's far more accurate than any human reaction.

• *Source: Bellows Co., 230 W. Market St., Akron 9, Ohio.*

NEW PRODUCTS BRIEFS

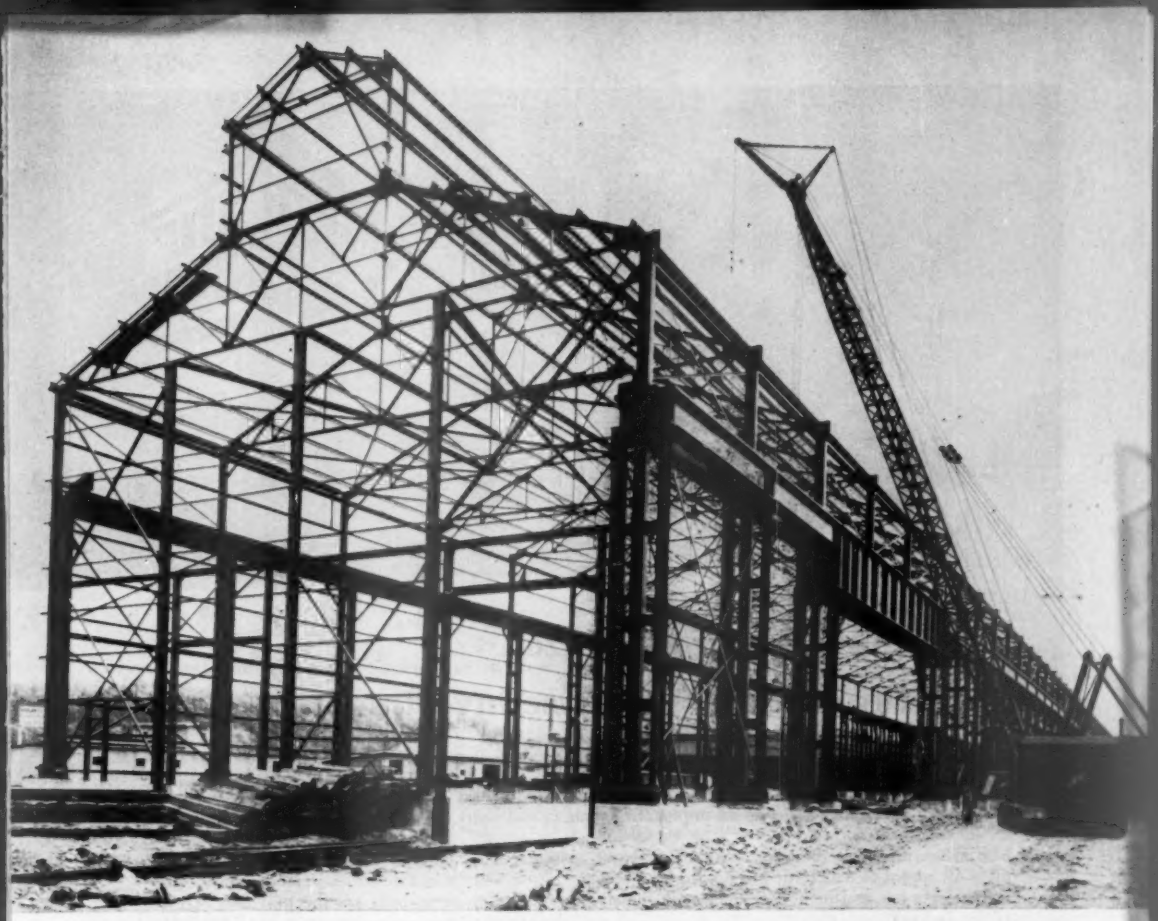
Accopac, a new fiber gasketing material, has been announced by Armstrong Cork Co. Products made of the new material have high compressibility, crush resistance, wear resistance, flexibility, and uniformity.

•

Reamers with interchangeable heads have been announced by Tompkins-Johnson Co., Jackson, Mich. Replacement cost per reamer is cut in half, says the manufacturer, because only the head that does the actual cutting need be changed.

•

Modular Multi Vent is a ceiling panel for heating, cooling, and ventilating systems that has been introduced by Pyle-National Co. of Chicago. Air is forced slowly through small holes in the panel. The company claims that this means the end of drafts.



Progress in Steel . . . *Means More Sheet and Strip*

The huge steel skeleton above is the beginning of one of several structures being built to house the new 66-inch Sheet-Strip Mills at the Pittsburgh Steel Company's Allenport Works. From these mills will come hot and cold rolled sheets to supply this vital material to manufacturers of a multitude of defense items and civilian goods.

The construction of these new mills is an important part of Pittsburgh Steel's Program of Progress which has as its objectives increases of 82% in finished product capacity and 50% in ingot capacity. It includes the acquisition of the Thomas Steel Company, now operating as the Thomas Strip Division, the installation of the new 66-inch High Lift Blooming-Slabbing Mill, which will roll slabs for the new Sheet-Strip Mill. Blast Furnace and Open Hearth capacities are also being greatly increased. All this is being done to expand production and diversify the Company's line of wire, tubular and flat-rolled products in order to serve customers better.

This Program of Progress at Pittsburgh Steel Company is typical of the activity in the steel industry which daily grows larger and stronger in order to help keep this Nation's commanding position in the world. For it is only with an adequate supply of steel that we can defend ourselves from aggression—maintain a high level of civilian economy as well.

Pittsburgh Steel Company

Pittsburgh, Pennsylvania

Why Honeywell Customized Temperature Control is a wise investment for apartment owners

Increased "rentability" will be an important factor in the years ahead

Lots of sun, fresh air, room for children to play—these all appeal to tenants at Meadowbrook Apartments, a garden apartment development in Indianapolis, Indiana.

And so does Honeywell Customized Temperature Control that gives each tenant *individual temperature control*, an advantage unfortunately not enjoyed by many apartment dwellers.

For at Meadowbrook there's a thermostat in each and every apartment.

When you talk to tenants about the heating system and the individual temperature control they enjoy, they agree both are the best they've ever known, that they're equal to what you find in the finest private homes.

And the resident manager of Meadowbrook, Henry C. Dickson, feels that Honeywell Customized Temperature Control definitely helped increase "rentability" at the time the buildings were finished.

What's more, he feels Honeywell Customized Temperature Control will give him a definite competitive advantage, tenant-wise, for years to come.

The Honeywell Thermostat in the typical apartment at right is located on the wall between the living and dining areas. Individual thermostats give each tenant *his own* temperature control as he wants it and when he wants it. Result: comfortable tenants. And comfortable tenants are satisfied tenants.

Architect J. Lloyd Allen, above, of Allen and Kelley, Indianapolis, looks on as designer R. K. Zimmerly describes how Honeywell Customized Temperature Control helped solve a knotty exposure problem. The model shows clearly the varied exposures of Meadowbrook's 37 buildings, its 647 one- and two-bedroom apartments that are located on the 50-acre tract.

Meadowbrook was designed to give families all the convenience and comfort of apartment life, yet retain many advantages normally available only in private homes.

For Comfortable, Even Temperature in New or Existing Buildings—of Any Size, Use Honeywell Customized Temperature Control

Whether it's an apartment, office, store, factory, school, garage—or any size building—new or existing Honeywell Customized Temperature Control can help meet your heating and ventilating problems.

Once equipped with Honeywell Customized Temperature Control you'll have an ideal "climate"—and you'll save fuel besides.

For full facts call your architect, heating engineer or local Honeywell office. There are 91 across the nation. Or mail the coupon today.

"It's a decided plus when it comes to renting," says Henry C. Dickson, resident manager, Meadowbrook Apartments.

"My job is to keep tenants happy and comfortable—and Honeywell Customized Temperature Control certainly helps me do that. And I've found it definitely increases the rentability of apartments, too."

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MINNEAPOLIS-HONEYWELL REGULATOR CO.
Dept. BW-7-167, Minneapolis 8, Minnesota

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I'm interested in learning more about how Honeywell Customized Temperature Control can help my business.

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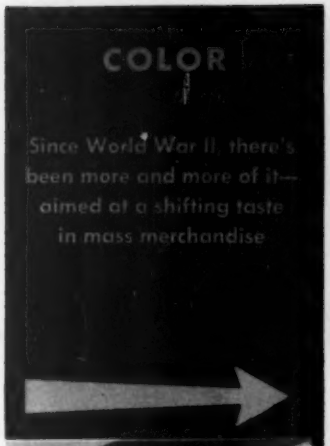
Address _____

City _____ *Zone* ____ *State* _____



IN AUTOS light blue, green took 32% of '51 sales; old favorite black was 10%.

WOMEN'S WEAR, long a color stronghold, show trend to beige, yellow-greens.

PAINT runs mostly to light colors, but white and cream chalk up only 17%.

FURNITURE is shifting from chartreuse, red, yellow, and green toward more blue.

APPLIANCES with color are preferred by 36% of home owners.

Picking the Color That Sells

A year from now, the American consumer will have her eye cocked more to products in red—particularly pinks and roses—than she has right now. She will still like gray, though possibly not quite so much. Her yearning for green may have shifted from yellow-green to bluer variations. And she may choose blue again, after shunning it in furnishings for years.

To the eye of one specialist of hues and tones, these are the main changes to expect in the color taste of the U.S. mass market. They will be important changes—if they materialize—for a great many manufacturers of consumer goods.

The reason, and it is almost a truism today, is this: The manufacturer who picks right colors for his product—those in keeping with the trend—will usually find his goods continuing to sell, other things being equal. The one who picks wrong colors may find merchandise piling up on the shelf.

• **What Is Color?**—For a phenomenon so precise in its effects, color is an annoyingly imprecise thing.

To this day, the exact nature of color and light is a mystery. There are wave theories, electrical theories, atomic energy theories—all of which can be argued with apparently perfect logic. So, too, with color vision. Does the eye perceive color by some mechanical process, or is it an electrical or chemical action? No one knows for sure.

• **Colors Preferred**—Aside from differences over the origin of the species, color experts and scientists do manage to agree on a fair-sized body of theory and fact. For one thing, most of them believe there are universal color choices among people; the ranking generally given is blue, red, green, violet, orange, and yellow.

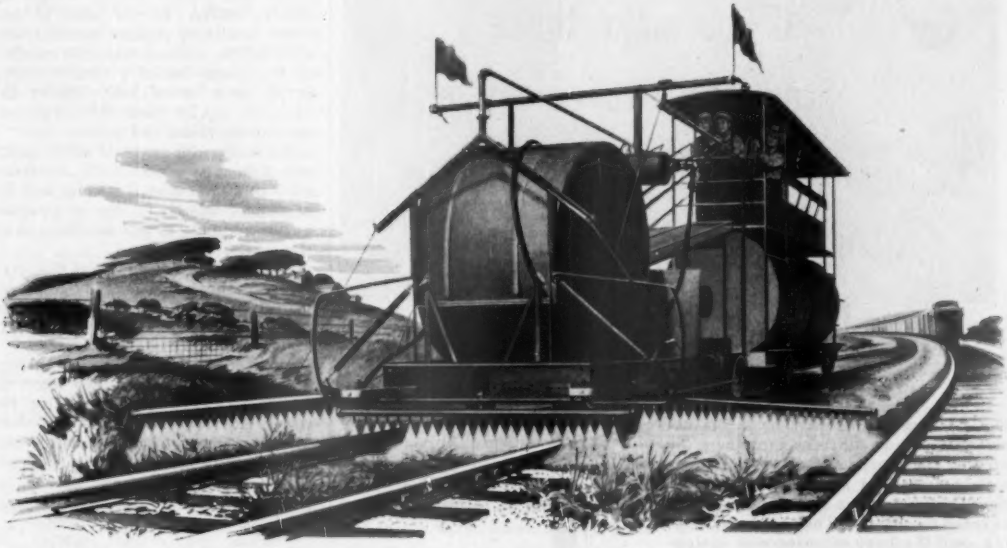
Furthermore, the colors a person likes appear to be influenced by physical and economic factors—where he lives, how much he earns, his social grouping, his age. New Englanders—conservatives by climate and tradition—generally prefer quiet, somewhat somber colors. The more flamboyant Californian will tend to like light pastel tints.

• **Mass Market**—Regardless of sectional and group color choices, mass mer-

Now LION Helps

"Clear the Tracks"

For America's Railroads



. . . saving man-hours and money for a vital industry

Sprouting along railroad tracks, weeds are not merely unsightly; when they dry out, they become a fire hazard. Despite mowing machines, flame throwers, arsenic, and scythes, the war against weeds has remained time-consuming and costly.

Now Lion Oil, through petro-chemistry, has developed a herbicidal oil which can be applied easily and safely from a spraying machine traveling at 15 miles per hour. Properly used, it is highly economical . . . kills weeds quickly.

This Lion herbicide also meets the weed problems posed by nurseries and orchards, fence rows, ditch banks and industrial yards. Another Lion weed killer works wonders in cotton fields—without injuring the cotton.

From one end of the petroleum scale to the other, Lion is *making the most of petroleum* with more than 60 petroleum and chemical products—ranging from gasoline and motor oils to nitrogen fertilizer materials made from air, water and *natural gas!* Each contributes to the continuing growth of Lion Oil.

Keep Your Eye On LION OIL COMPANY El Dorado, Arkansas

A Leader in the Exciting Petro-Chemical Field . . . More Than 60 Petroleum and Chemical Products for Transportation, Industry and Agriculture.

LION

chandise in a good range of colors will usually appeal to enough people to sell well throughout the country. But there is a vast difference between what the mass market will want in color and what high-fashion buyers will crave.

The high-fashion market demands many colors, wants unusual shades, tends to change its likes rapidly as colors go in and out of vogue. Some of its choices may later catch on with the mass consumer. But many more "exclusive" colors will die in decorators shops.

The mass market seems to prefer a limited range of colors, wants familiar rather than radical shades, changes its choices slowly. In the sales of one home furnishing product, for instance, 69% of the volume was concentrated in five colors—out of a total selection of 22. In a line of 1,000 interior finishes, the top 20 colors were all greens, grays, reds, pinks, and yellows.

Generally, the mass market buyer will walk into a store with a definite color in mind. And that color may be important enough for her to override quality and price in picking the product she wants.

• **Trends**—There is no doubt that over the years the color choices of the mass market show definite shifts. Whether these shifts follow a fixed cyclical pattern is less clear.

What facts there are, however, suggest they do. Generally, this seems to be the movement: From a liking for strong, rich colors, preference will shift to lighter tints or pastels, then to more grayish, muted tones. At the moment, we seem to be near the peak of a pastel phase, with strong elements present from other parts of the cycle.

Within the over-all pattern of change, the popularity of specific colors will show marked ups and downs. What happens is simply this: The consumer eventually tires of what she has in her living room and wardrobe; she wants something fresh and new.

• **What She Chooses**—Just how she goes about getting this "freshness" will likely depend on the color trend at the moment. It may be a trend that has started—or been promoted—in Paris, Hollywood, in decorators' shops, home furnishings magazines, or "exclusive" stores. Color vogues start somewhere in the high-fashion market; they become a trend when they filter through to mass-consumption merchandise.

• **More Color**—Unquestionably, the mass market buyer today thinks a lot more about color—for color's sake—than she did 10 years ago. The sales figures of the paint industry alone show that.

In 1941, ivory, cream, and buff accounted for roughly 65% of industry sales; today they make up only about 17% of volume. Green has climbed

BUSINESS' SEVEN LEAGUE BOOTS

Cessna
CASE HISTORY ADVERTISEMENT

THE 80-HOUR WEEK

It's a killer

Today—caught in the executive manpower squeeze—business is finding the pressure terrific. What to do about key men who must spend 70, 80 or 90 hours a week working, traveling, conferring is a major problem. But some firms have found one way to make their lives easier...

MANAGEMENT

Red Dot's Busy President

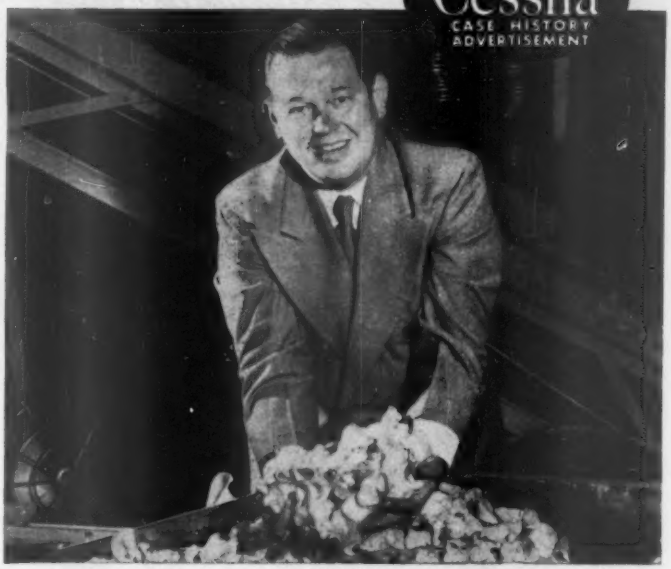
41-year-old Frederick J. Meyer, of Madison, Wisc., always has been busy. Starting with a second-hand potato chip machine while still attending college, he's built a $5,000,000 a year "party" foods business ... Red Dot Foods, Inc.

Meyer keeps in close touch with his factories in Madison, Minneapolis, Indianapolis and his potato farms in upstate Wisconsin, Alabama and Florida—visits with potato experts at state experimental farms all over the U. S.—attends packaging shows, conventions, conferences—makes frequent trips to Washington.

How Does He Do It? The answer is Meyer's shiny, all-metal Cessna 170 which he bought with the express purpose of speeding up business operations. Meyer flies himself but there is also another experienced pilot in the organization (John Lautenschalager, ex-bomber pilot, now assistant to the production manager).

Typical Trip: Recently Meyer flew from Madison to Mobile, Ala. (to buy another potato farm), to Memphis, to Dallas (to attend a conference), to Jackson, Miss. (for a convention), and back to Madison. The trip took half the time—Meyer says—that it would have with any other method of transportation.

"And that's typical," he adds. "In a fast-growing company like ours, speed and convenience are of prime importance. Our Cessna not only gets me there fast, it handles easily and lands and takes off smoothly in the roughest, shortest fields. Am I satisfied? That's putting it mildly!"



F. J. MEYER
Makes potato chips fly!

AUTOMOTIVE

Dealer Takes Off

Stephen Burns, St. Louis automobile wholesaler and retailer, considers his big Cessna 195 a primary business tool. Burns buys and sells cars throughout the U. S., finds the Cessna's fast cruising speed gives him the jump on competitors by getting him to hot business deals faster, enables him to shuttle his drivers, move more cars in less time. At present, Burns is also a "flying" candidate for Governor of Missouri.

He especially likes the dependability of his Cessna, uses the plane for visits to county fairs in connection with a separate implement business. Despite continual use, Burns' Cessna has required no major repair since it was purchased in July, 1950.

YOUR BUSINESS

Now, let a Cessna prove its value to *your* firm. Charter a 170 or 195 before you buy. Fly it on every trip you make. Compare it with *any* transportation—in actual economy, in time you save, in new profits it alone makes possible.

Your local Cessna dealer will gladly make all arrangements. See him, today!

* * *

For more information on Cessnas and more case histories on the use of Cessnas in businesses similar to yours, phone or see your local Cessna dealer. He is listed in the classified section of your telephone directory. Or write CESSNA AIRCRAFT CO., Dept. 63, Wichita, Kansas.

THE "COMPANY CAR" OF THE AIR

New Super-Lift Wing Flaps shorten take-offs, landings. Patented Landing Gear cushions rough-field landings. High-Wing stability, visibility, sun protection. Smooth 6-cylinder, 145 H.P. Continental Engine for comfortable, fast cruising.

All-metal dependability. Adjustable foam-rubber seats (removable rear seat). Yard-wide doors. Big 120-lb. luggage capacity. Hydraulic brakes. **Yet it's the lowest-priced 4-place, all-metal plane by several thousand dollars!** ALSO SEE the 4-5 place, bigger, faster Cessna 190 series. There's a Cessna to fit your business!

from 5% of sales to 25%; blue from 5% to 16%, gray and rose from 5% to 11%. Last year, out of the 112 paints in one company's line, the top five sellers were gray, chartreuse, turquoise, brown, and dark green.

In autos, too, there is more demand for color—though companies come nowhere near to offering the 13,000 or more colors that were in production during the 1920s. In 1941, black cars made up 26% of the total sales of one typical manufacturer. By last year, black had skidded to 10% of total industry sales; blue, gray, and green made up better than 75% of volume.

In kitchen housewares, the 1942 favorites were white, black, red, and green. Last year, the sales of one fairly high-quality line showed nearly 63% of volume in pastel yellow, pastel blue, pastel green, and pastel pink. A nationwide survey of homeowners found 36% of the people questioned wanted refrigerators and other kitchen appliances in color.

• **What to Pick**—How can a manufacturer gauge what colors the market will want in his particular product? Most companies—at least those that lean heavily on color—agree that it comes down to a job of research.

There is growing realization, too, that simply following over-all color trends isn't enough. Although there is some correlation among best-selling colors in various lines, it is far from precise. And even assuming you guess correctly on adding a pink to, say, a blanket line, how do you decide which pink? You can miss completely with the wrong tone.

Thus, color choice has become less an artistic satisfaction for the manufacturer, more a process of simply giving the consumer what he wants. Finding out what he wants is the job of market research—checking to see what color the consumer has in a particular product now, what color he will want when he buys again.

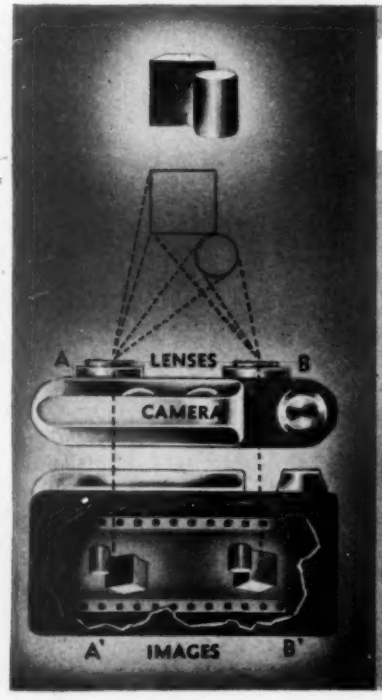
Many companies do this research themselves—as a normal part of product planning. Others turn for help to colordom's high priests—the color consultants. There are perhaps a dozen of these who are well recognized in what is a highly competitive field. The biggest, in terms of accounts, is probably Faber Birren who dispenses his advice on hues and shades to such clients as Monsanto Chemical Co., Minnesota Mining & Mfg. Co., Firestone Plastics Co. Others, each with his own following, are Howard Ketcham, Fred Rahr, Paul Hartley, Helen Taylor, Elizabeth Banning, and Lucille Knoche. Hartley champions the theory that every product color should appear in shades that are "warm" or "cool." He believes most people are either warm-eyed or cool-eyed.

"SHAKE ON IT, BROTHER — COMFORT IS SOMETHING WE CAN BOTH AGREE ON"

VIEW-MASTER has been a kids' favorite toy for 12 years, shows 3-dimensional colored slides. Now it's growing up as . . .

Stereo Photography Is Back in Style

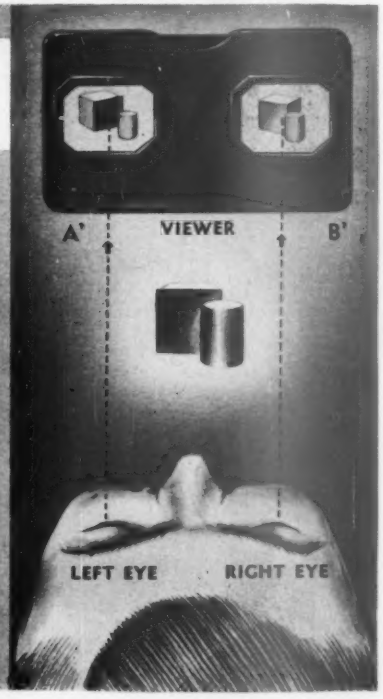
(Story starts on page 74)



BASIC PRINCIPLE OF THREE DIMENSIONAL PHOTOGRAPHY

At top left is actual subject. Photographed with stereoscopic camera through lenses A and B, images at A' and B' are formed, inverted and reversed in position. To see this, turn page upside down.

At right, images seen in eyepieces are merged in the mind of the observer, producing single three-dimensional image shown at center.



Are you sure you're not missing a bet?

Some folks found they were! Found that powder-metal parts could cut *their* costs—could be made up to .0003" tolerances . . . at rates up to 2000 an hour . . . and for applications other than simple pressings and self-lubricating bearings (the familiar powder-metal products).

Look at the many and varied pieces shown above. All are being produced (at substantial savings) from powder-metal in a single pressing. In some instances, *two* or more metals are combined. Think of the savings this represents in costly machining and assembly operations.

Ferro's *Wel-Met* subsidiary, a pioneer in this field, is doing some truly remarkable things with powder metallurgy. We would like you to see some of the work, learn of the production economies.

In this field, as in many others, Ferro teams *engineering with chemistry* to find the answers. And the formula works as it has in plastics, ceramics, metal coatings and electrical heating elements.

So . . . if you have small metal parts to produce in large quantities, or small assemblies that might be made in combined parts, think again about powder metallurgy. And call in Wel-Met, the folks with the answers. Write Ferro Corporation, Cleveland 5, Ohio.

FERRO

OUR FRONTIER IS ENGINEERING TEAMED WITH CHEMISTRY...

"...stereo died with vaudeville but it's coming back fast..."

STEREO starts on p. 72

Parlor entertainment of the sideburns-and-bustle days is threatening to return to compete with the television set. It's the old idea of the stereoscope—three-dimensional pictures—brought up to date in color transparencies.

Amateur photographers now have a choice of five stereoscopic cameras for still photos in color, two three-dimensional attachments for movie cameras, and a variety of viewers. Latest in the still-camera field is Sawyer's, Inc., of Portland, Ore., which has distributed more than 6-million of its $2 View-Master viewers in the past 12 years.

• **Old Principle**—The theory of stereovision is even older than photography. Its earliest application was in pairs of drawings, one to be viewed by each eye. The depth and roundness given to pictures by this method astounded people 100 years ago.

When photography was born, stereo pictures were made in two ways: (1) by shifting an ordinary camera 2½ in. to one side for a second exposure of the same subject, or (2) by hooking up two cameras or lenses on one camera 2½ in. apart to get simultaneous exposures. The magic 2½ in. is the distance between an average person's eyes.

Neither method was wholly satisfactory, especially with animate objects, and prints had to be tinted by hand if color was desired. Yet the stereo viewer was a hot number in Grandma's day—a companion piece to the haircloth sofa and the porch swing. The Civil War and the Crimean War were photographed in stereo, and panoramas of Niagara Falls were in every home of culture. But action shots were impossible, and stereo died along with vaudeville when movies boomed after World War I.

• **Anaglyph**—Stereo was also adapted to movies and to the printed page, in both cases by the old anaglyphic principle. This is the system of providing the onlooker with two out-of-register images, one in red and one in green, and a pair of spectacles with one red lens and one green. Lenses can be made of Cellophane, mounted in inexpensive cardboard holders.

Each eye sees only one image; the brain puts them together into a lifelike scene. Realistic colors are impossible, though, and the need for each spectator to have a pair of special glasses limits use of the method.

• **Color Stereo**—Mass use of stereo got its biggest boost when color trans-

SPRA-TAINER Does It Again!

PICNICS without BUGS

INDOORS OR OUT, death comes quick and sure to flying, crawling, stinging insects in the face of REAL-KILL Insect Bomb's lethal mist . . . and the Cook Chemical Company, Kansas City, Missouri, supports its claim for the speedy effectiveness of their new Insect Bomb with a money-back guarantee on the label.

Here again is *Teamwork* — an excellent product plus superlative packaging. Again SPRA-TAINER has been chosen above all other propulsion cans because its patented "No Side Seam — No Top Seam" construction protects products like no other pressure package . . . and because its exclusive "Modern Design" has eye-appeal that guarantees a *real killing* in sales!

Crown Can originated SPRA-TAINER. Crown Can leadership is evidenced in the design and manufacture of fine cans for almost every use.

The patented crystal-clear plastic top on the REAL-KILL Insect Bomb is specially designed for easy stacking on shelves and displays . . . has many valuable consumer uses, too.

CROWN CAN

Division of

CROWN CORK & SEAL COMPANY

One of America's Largest Can Manufacturers • Plants at Philadelphia, Chicago, Orlando • Branch Offices: New York, Baltimore, Pittsburgh, St. Louis

". . . no telephone poles growing out of people's heads . . ."

STEREO starts on p. 72

parencies, such as Kodachrome, came into vogue. This gave stereo two new selling points: color and available gadgets to fit miniature cameras.

Before World War II, the only stereo attachment on sale was the Stereoloy, made by Ernst Leitz Co., the Leica people. The Stereoloy fitted over a Leica lens, used prisms to split an image into two separate, half-size exposures. A viewer that looked like a pair of binoculars accompanied the gadget. Just as the public was getting interested, World War II broke. The Leica accessory went off the market for good.

Stereo took to the air during the war, with sensational success in uncovering the enemy's secrets through three-dimensional aerial photos. Makers of the stereo equipment, meanwhile, gained experience that enabled them to hit the civilian market again after the war.

• **Still Cameras**—As things stand now, the stereo enthusiast has a choice of five cameras. Roughly in order of their introduction, they are:

• Stereo-Realist, made by David White Co. of Milwaukee, $159 (about $167 with viewer, too). It uses 35 mm. film, produces transparencies 24 mm. (approximately an inch) square.

• Verascope, made by Jules Richard in France, imported by Busch Camera Co. of Chicago, $269.50. Verascope makes slightly larger pairs of transparencies, each 24 by 30 mm. Mounted pairs will fit in the Stereo-Realist viewer as well as Busch's own.

• Iloca II, made in East Germany and imported by Ercona Camera Corp. of New York City, $125. Each picture is 24 mm. square.

• Videon, made by Videon Camera Sales, Inc., of Milwaukee, $97.48. Also produces pairs of pictures each 24 mm. square.

• Personal Stereo, made by Sawyer's, Inc., $149. Pictures, 12 by 13 mm., fit into standard View-Master reels for viewing. The camera takes 60 pairs of pictures on a standard 35-mm. Kodachrome roll. A flash attachment will soon go on the market.

• **Accessories**—Rather than buy a camera, some people prefer to get an attachment similar to the prewar Stereoloy. First postwar model was the Stereo-Tach, made by Advertising Displays, Inc., of Covington, Ky., to fit almost any camera. With viewer, it sells for $17.70. As with the widely sold View-Master, you hold the viewer up to a light to see pictures.

David White next came out with a stereo attachment for cameras at $18, including a viewer with a built-in source of light.

For people who wanted a bigger picture to look at and a chance for more viewers to see it at once, two companies brought out projectors using standard screens: Advertising Displays, and Three Dimension Co. of Chicago. TDC's product sells for about $175, Advertising Displays' for $37.50. A third projection device, the Taylor Table Stereo Viewer (about $50), allows a small group to see the stereo image on a TV-sized ground glass. All three used a Polaroid system of splitting the images; prices include Polaroid spectacles.

Two movie attachments also use the Polaroid system: the Paillard Bolex Stereo device ($397.50) for Bolex cameras only, and the Nord Co. of Minneapolis outfit ($83.50). Prices include adaptations for projection, too.

• **Appeal and Market**—David White Co. estimates there are 60,000 stereo fans in the U.S. now, one-third or more using David White equipment. The Milwaukee company is believed to have spent somewhere around $5-million in development and promotion of stereo. It is trying now to get the American Standards Assn. (BW—Jun.21'52, p40) to adopt its picture and mount size as standard.

Meanwhile, stereo is gaining new followers all the time, despite the drawbacks of either small picture size or necessity for special goggles.

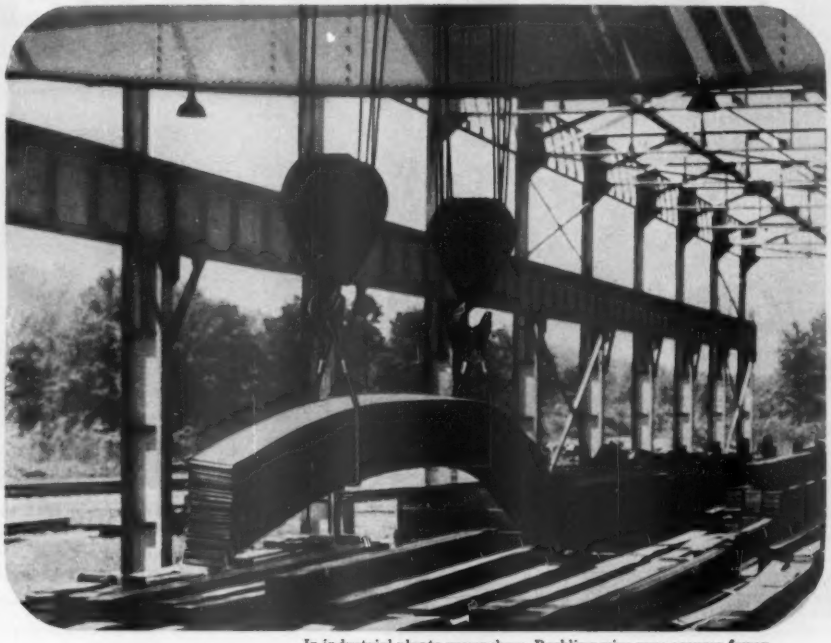
For everyone, the big selling point is the beauty of the three-dimensional, natural-colored pictures.

For the amateur, the foolproof nature of stereo is appealing. All you have to do is hold the camera straight and, in some models, set dials that automatically fix the lens opening. Subjects never look as if telephone poles are growing out of the heads, as they do in two-dimensional snapshots. And no stereo color shot is dull.

For the professional, the possibilities are even broader. Stereo views are being used more and more to display stock—a well-rounded stereo shot of a pretty model in a dress tends to sell the dress better than a sample hauled, wrinkled, out of a salesman's case. Stereo views can better show a piece of machinery and how to operate it. Newlyweds pay big money for stereo views of their weddings.

Sawyer's, Inc., is on the verge of releasing a series of anatomical studies for the medical profession, on View-Master reels. And there's a two-volume book on Mushrooms in Their Natural Habitats, prepared by Sawyer's William B. Gruber with the aid of Dr. Alexander H. Smith, Univ. of Michigan botanist. One volume contains 33 View-Master reels; the other, text.

WIRE ROPE



In industrial plants everywhere, Roebling wire rope assures fewer shut-downs . . . Roebling slings help cut materials handling costs.

This is the longest-lasting rope we've ever made for industrial use

ROEBLING has been making wire rope for more than a hundred years. During that time we've been developing new kinds of wire and wire rope, and making them constantly better.

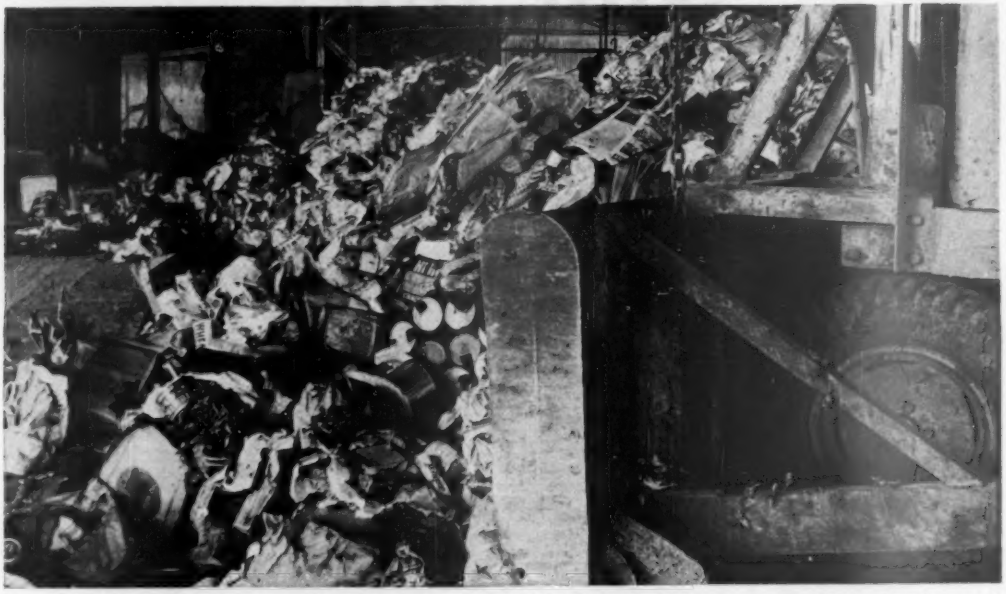
Probably the first thing asked about wire rope is, "Has it got what it takes? Will it stand up on the job and reduce replacements?"

Our answer is an emphatic *yes*, because Roebling Preformed "Blue Center" Steel Wire Rope passes the severest tests for tensile strength, abrasion resistance and all 'round toughness.

There's a Roebling wire rope of the right construction for every sort of service. The Roebling Field Man in your area will recommend the most efficient and economical rope for your requirement. His suggestions on the proper installation and maintenance of wire rope will bring further savings. John A. Roebling's Sons Company, Trenton 2, New Jersey.

ROEBLING

ATLANTA, 934 AVON AVE • BOSTON, 51 SLEEPER ST • CHICAGO, 5525 W. ROOSEVELT RD • CINCINNATI, 3253 FREDONIA AVE • CLEVELAND, 701 ST. CLAIR AVE, N. E. • DENVER, 4501 JACKSON ST • DETROIT, 915 FISHER BLDG • HOUSTON, 6216 NAVIGATION BLVD • LOS ANGELES, 5340 E. HARBOR ST • NEW YORK, 19 RECTOR ST • ODESSA, TEXAS, 1930 E. 2ND ST • PHILADELPHIA, 230 VINE ST • SAN FRANCISCO, 1740 17TH ST • SEATTLE, 900 1ST AVE S. • TULSA, 321 N. CHEYENNE ST • EXPORT SALES OFFICE, TRENTON 2, N. J.



GARBAGE is bulldozed onto a conveyor belt. The belt rises to the second floor of the pilot plant, where some of the paper is sucked off by vacuum, bottles are removed by hand, and cans and other metal are whisked out by magnets.

Oakland Garbage: It's a Gold Mine

(Story starts on page 80)

MIXTURE is loosened, more extraneous matter, like bottles and paper, is removed.

SOIL and manures are added, mixture is fed into a grinder. Bacteria are sprayed on, and mixture is piled up in the sun. In three weeks, it will be a rich humus.

Isn't it worth 2¢ a day* to have cool, refreshing water on tap?

Cool drinking water can mean a lot to your business—contributing to the health and efficiency of employees, building priceless loyalty and good will, pleasing customers, too. Yet these benefits cost surprisingly little—actually only a couple of pennies per day—when you install Frigidaire Water Coolers.

In offices, factories, stores—hotels, restaurants, and institutions—wherever people work, eat, play—there's a need for Frigidaire Water Coolers. And there is a model to fit every need—attractive, self-contained pressure-type coolers that cool from 3 to 20 gallons per hour. Bottle-type coolers that require no plumbing, may be plugged into any convenient electrical outlet. And tank-type coolers for remote installations.

All have ample cooling capacities and reserve power for peak demands. Dependable performance is assured by the Meter-Miser, simplest cold-making mechanism known, and by Frigidaire's experience of more than 30 years in building refrigeration equipment.

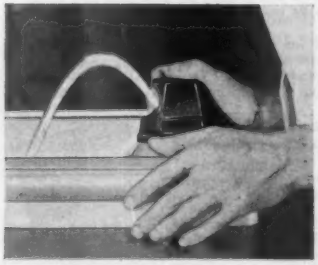
See how Frigidaire Water Coolers can help your business. Call your Frigidaire Dealer or Distributor for expert advice. Look in the Yellow Pages of your Phone Book, or write Frigidaire Division of General Motors, Dayton 1, Ohio. In Canada, Leaside (Toronto 17), Ontario.

**Average cost of operating typical Frigidaire Water Cooler.*

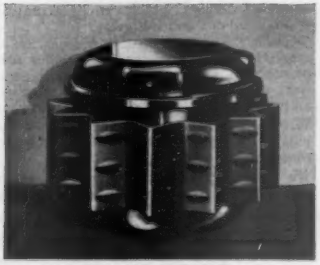
FRIGIDAIRE

Dependable Air Conditioning and Refrigeration Products for Stores, Offices, Institutions, and Industrial Plants

Convenient Frigidaire Water Coolers located throughout plant, give all workers access to healthful, refreshing drinking water. It helps production. And it's *so* inexpensive the Frigidaire way!



"Magic Action" Bubbler won't blast in your face! Provides a just-right steady stream of water from a valve and bubbler combined into one single, simple, trouble-free unit. Lasts for years.



Thrifty Meter-Miser mechanism is sealed in steel, oiled for life. Has set records for economy, dependability and trouble-free service in millions of Frigidaire products. Backed by a 5-year warranty.

Frigidaire reserves the right to change specifications, or discontinue models, without notice

". . . a tablespoon of bug juice converts a ton of garbage into humus . . ."

GARBAGE starts on p. 78

Ever since civilization became sanitation-minded, one of its prime problems has been garbage disposal. Communities spend millions for incinerators that are disagreeable fume producers at best, or they spend money for long hauls to a dump—but the garbage is still there.

In Oakland, Calif., the Compost Corp. of America is licking the city's problem by adding special bacteria to the garbage dumps. These bacteria transform the foul-smelling dump into a rich organic fertilizer (Com-Co), which the company sells for $4.65 per 100-lb. bag.

In addition, Compost Corp. sells a bacterial spray to farmers for use on harvested fields in preparation for replanting. The stubble remaining after a harvest is sprayed—by plane or ground sprayer—then disked in. The bacteria reduce the stubble to humus in a matter of weeks, and the land is ready to go back into production.

• **Finicky Tastes**—The process is the brainchild of Dr. Ehrenfried E. Pfeiffer, a biochemist, who has spent 20 years studying bacterial action on organic matter. Bacteria, it seems, have highly selective appetites. Some like orange peel; some prefer banana skins; some thrive on tomato pulp or coffee grounds; others crave paper.

Pfeiffer's problem was to isolate each for its dietary habits, then mix them together in the proper proportions to do a thorough job on a garbage pile. The formula Pfeiffer uses on the Oakland garbage is a mixture of 32 different bacteria. A tablespoon of his bug juice in the right amount of water will convert a ton of garbage into humus. The bacteria are grown in Pfeiffer's lab at Spring Valley, N. Y., and shipped to California.

• **Pay-Off**—Pfeiffer says that finding the bacteria to reduce paper was the toughest job of all—but his search paid off two ways. A couple of years ago, he was demonstrating his process to the city fathers of Buffalo, N. Y. He hadn't licked the paper-reduction problem then, and while he was there he called on the Buffalo Wastepaper Co., Inc., for some help. One of the young salesmen, Richard P. Stovroff, heard his story and was fascinated. In a few months, Stovroff was in California laying the groundwork for what is now the Compost Corp. of America. Stovroff is president, Pfeiffer is his technical consultant.

Pfeiffer finally discovered the paper-

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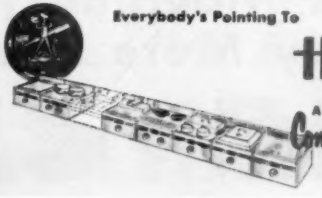
And—Hotpoint Counter Equipment lasts up to *twice* as long, according to actual users' reports.

To the restaurant man all this means speedier production—better food at lower cost. To his customers it means faster service and better eating out.



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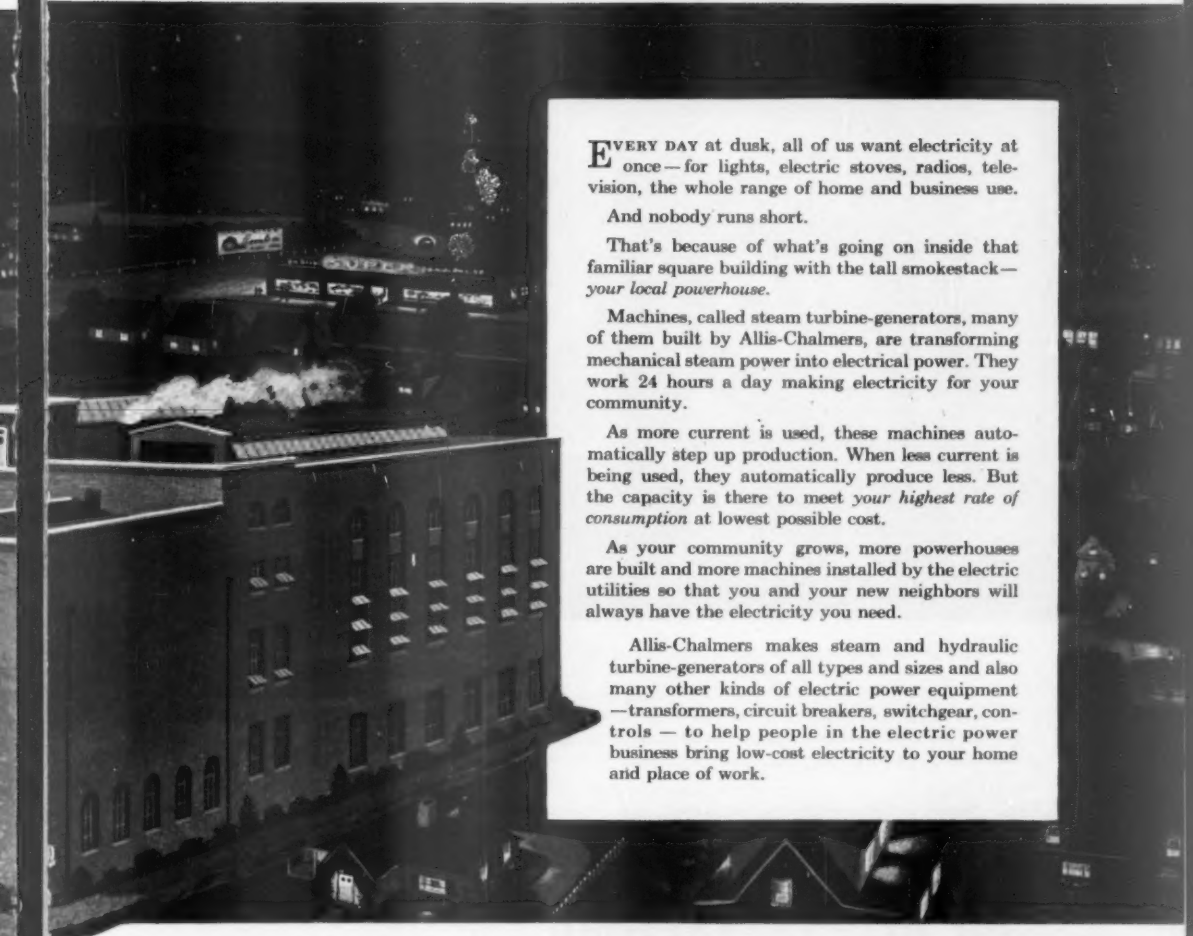

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eating bacteria by accident. He shipped a paper bag of material across the country. On delivery, one side of the bag was eaten through. Pfeiffer took the bag and its contents to the lab where he isolated and preserved the bacteria that were gnawing on the paper.

• **The Process**—Stovroff picked Oakland for pilot plant operations because there is plenty of room at the city's garbage dump on the shore of San Francisco Bay. For a pilot plant he uses an old incinerator building at the site. As the Oakland Scavenger Co.—which collects the city's garbage—delivers its loads, the garbage is bulldozed onto a conveyer belt. Human hands whisk the bottles and some of the paper from the line. A magnet removes tin cans and other metal.

What's left is mixed with a certain amount of soil and selected manures, then ground up and sprayed with a so-called starter solution containing the bacteria. After that, it's just a matter of piling it up in the sun and spraying it judiciously with water. In three weeks, it's rich humus, ready to be used as a soil builder, or for a final processing into fertilizer.

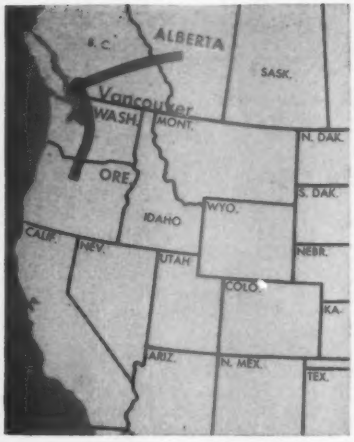
• **For the Market**—After the bacteria and the sun have done their work, the material in the piles is ready for use as a soil builder. In this form, it has a limited market, selling to farmers for about $35 a ton. But it has to be screened, fortified with urea, and pelletized before it is sold as a fertilizer. This about doubles the cost.

• **No Smell**—All this sounds like a smelly and unsanitary process. Actually, it's the opposite. The mass loses its characteristic garbage smell almost from the time it is mixed with soil and manure. And once the bacteria get to work on it—a matter of a couple of hours after it's received at the plant—rats, flies, gulls, and other scavenger creatures give it a wide birth. They'll have no part of decaying vegetation. Even around the manure pile, you get nothing more than a mild approximation of a freshly plowed field.

• **Expansion Plans**—The company is still far from full-scale production. Of Scavenger's daily collection of from 515 to 600 tons of garbage, Stovroff converts only about one-fifth of it into fertilizer, at the rate of 45 to 50 tons a day. But a Buffalo firm of industrial engineers has just completed a survey of the process and the site, preliminary to drawing up plans for a new plant.

At present, Compost Corp. has no elaborate marketing plans. It's now sold only in California (through the Ferry-Morse Seed Co.) and in Hawaii. Eventually, the process will probably be licensed to other cities to produce fertilizer from their own garbage and handle their own marketing.

CANADA will supply natural gas to the U.S. Northwest if this pipeline gets FPC approval



Pacific Northwest States

Some day before long, natural gas will be piped into the Pacific Northwest, or the fuel-hungry states in the region will know the reason why not.

Just when the day will be, though, is fogged in the crystal ball. So is the question of just where the source of the gas will lie. The rich fields of Alberta look like the obvious source to many people. But there will be a lot of pulling and hauling between pipeline companies and distributors—and above all, between Canadian and U. S. authorities—before anything can get out of the chitchat stage.

• **Backward Step**—Only last week the Federal Power Commission was asked by its own counsel to deny all the applications now before it for importing natural gas from Canada. The reason given: failure of the applicants to get Canadian export permits.

If the Commission does grant an application, the likely winner is the plan proposed jointly by Westcoast Transmission Co., Ltd., of Canada (plus its American affiliate) and Trans-Northwest Gas Co., Inc.

Gas men think Westcoast's management pulls enough weight on both sides of the border to give it an edge over Pacific Northwest Pipeline Corp., Northwest Natural Gas Co., and Glacier Gas Co.—all of whom have also filed applications.

• **Balance**—In the hearings that FPC is holding on all these applications, Pacific Northwest has brought up the often-discussed idea of balancing deliveries of Alberta gas to the Coast area with U. S. gas piped to Canada's Eastern provinces. Pacific Northwest's idea is to get Texas gas to Ontario and Quebec as an offset to the southbound deliveries on the Coast.

This is a scheme that has often been suggested as an answer to the problem of finding a market for Alberta's gas without stripping Canada of a vital natural resource. The big trouble is cost. A lot of people in the trade think U. S. gas will always be too expensive to compete in Eastern Canada.

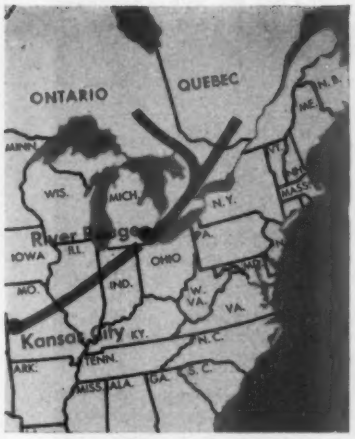
However, FPC has still other applications before it, and this one would involve export of gas to Eastern Canada without any offsetting imports in the West. Tennessee Gas Transmission Co. is asking permission to extend its network into eastern Canada. TGT has asked the commission to sever its case from the others, since it is not interested in the Pacific Northwest.

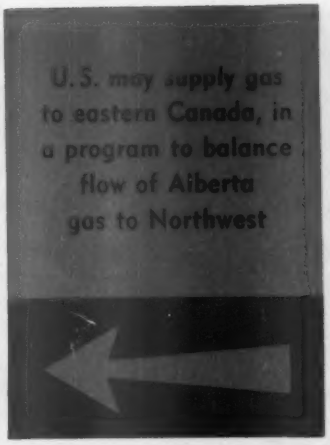
Another maverick proposal now lumped with the others is Northern Natural Gas Co.'s bid to deliver Alberta gas to the U. S. Midwest.

• **U. S. Source**—While this milling goes on, the possibility has developed that the Pacific states might get their gas from the U. S. instead of Canada after all. Gas distributors (the companies that sell to the final consumer) in the Northwest are getting restless. Seattle Gas Co., a distributor which has been a leader in the move to bring natural gas to the Northwest, has given certificate of intent to Pacific Northwest Pipeline Corp., a U. S. company. At the same time SGC refused to give a similar letter to Westcoast Transmission.

Some trade circles saw the SGC move as largely a bogeyman to scare Canadians into firmer and quicker decisions. But nobody is quite sure.

About the solidest item in this fluctuating picture was the attitude of the people in the Pacific Northwest states. They want natural gas badly, but only





Eye Canada's Natural Gas

if it comes in guaranteed sufficient quantities, at a price competitive with other fuels.

• **Supplement**—This attitude is natural. Apart from cheap hydroelectric power, the area is very low on natural sources of energy. The gas, it is felt, should supplement electricity in industrial and domestic use, rather than compete with it. Eventually, each would create new markets for the other in a lush climate of industrial expansion.

Purely domestic consumption could not possibly support a pipeline. A big chunk of industrial consumption would be needed, much of it on an interruptible basis, to allow a high load factor. In order to compete with the oil now brought in by tanker, it is generally figured that natural gas would have to cost about 32¢ per 1,000 cu. ft. delivered by the pipeline to the distributor. The load factor would have to be about 70%.

At the same time, local gas distributors figure that they could not afford to convert to natural unless they could count on an adequate supply for at least 25 years. N. H. Gellert, president of Seattle Gas, explains that for every dollar invested by the pipeline company, another dollar must come from the distributor, and another from the customer for new appliances and equipment. And this three-way budgetary stretch would make no sense except on a long-term basis.

Moreover, the supply would have to be regular, as well as long lasting. Unlike oil pipelines, gas lines do not include large storage reservoirs.

If a break cuts the gas flow, the users are put out of business in a few hours.

• **Canadian Side**—Nearly all of these requirements of the Pacific Northwest states run counter to the rules laid down by the Canadian authorities.

The Canadians have been reluctant to guarantee massive exports until they are certain that the supply is ample for their own use. They have not been willing to make any commitments longer than five years—a mere fifth of the time the Americans feel they need.

About the handsomest Canadian offer so far was the statement by the Board of Transport Commissioners in Ottawa that it would permit Westcoast Transmission to build a pipeline from northern Alberta to Vancouver, and thence to the Seattle-Tacoma-Portland area. The statement carried a huge if—the deal was off unless "sufficient natural gas reserves" were found. At the same time, the commissioners rejected or shelved five other requests for similar pipelines.

• **Two Fields**—In almost every aspect of the situation, Canadians and Americans are far apart. A lot of the trouble arises from the fact that there are two major gas fields in Alberta: easily accessible Pincher Creek field in the south, and the hard-to-get-at Peace River field in the north.

The Americans want gas from Pincher Creek. The pipeline would be easier to lay and shorter; delivered cost would probably stay inside the vital 32¢ per 1,000 cu. ft.

The Canadians say: Take it from Peace River, or don't take it at all. The Canadian idea is that the only way to secure the very expensive development of Peace River, is to have its gas drawn to Vancouver, and thence to the U. S. Vancouver alone could never provide an adequate market.

All this leaves this stalemate:

• The Pacific Northwest wants

Pincher Creek gas, with a guaranteed 25-year supply reaching 80-billion cu. ft. by the third year of operation.

• The Canadians offer Peace River gas, with a five-year permit for 42-billion cu. ft. a year—if the supply proves adequate.

• **Cut Off**—The Americans have another reason to take a dim view of the Peace River setup. The proposed pipeline would run to Vancouver, in British Columbia, and thence south into the U. S. Approximately 14% of the market would be in Canada, with the remaining 86% in the U. S. That means that if supplies ran low, the American users could be cut off completely, to the benefit of the Canadian minority. Such action is authorized by the Alberta Gas Resources Preservation Act. But it had not worried the Americans as long as the Pincher Creek line ran from the field direct to Spokane, with a branch from there reaching back across the border to Vancouver.

Apart from the cut-off possibility, Peace River gas will cost more. American experts think the Canadian estimate of 35¢ for 1,000 cu. ft. is way too low. But even that is 3¢ over the 32¢ Pincher Creek estimate, which would have been competitive. In practice, the whole differential would have to be borne by the domestic and commercial users. That's because the price to industry would have to be held to the competitive figure, come what may.

• **First Deal**—When the sparring first started over who would pipe out Canadian gas, the American distributors adopted a hands-off policy, prepared to do business with the first and most effective comer. Last fall, Seattle Gas dropped from neutral ranks and signed a tentative agreement with Northwest Natural Gas, subject to Northwest's ability to get Pincher Creek Gas.

In June SGC terminated the agreement, after Northwest had failed to get Canadian export permits. At the same time, the distributor signed its agreement with Pacific Northwest Pipeline Corp., to bring in U. S. gas.

• **Compromise**—That's where matters stand now, with the near-term prospect thoroughly confused. Long-term, though, there are factors working for compromise. Alberta has enormous natural gas resources, probably more than she can consume in even her wildest dreams of industrialization.

As long as it stays in the ground, the gas is no good to anyone; it has to find a market somewhere. Most experts believe that building a pipeline from Alberta to the big eastern Canada market would be an impossibly expensive engineering miracle. That leaves the Pacific Northwest as the logical customer—not too far to be reached by economically feasible pipelines, eased by a few compromises.

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HISTORICAL DRAMA featuring highlights in the state's history is one of North Carolina's most ambitious bids for more tourists. Historical pageants have proved to be a big drawing card.

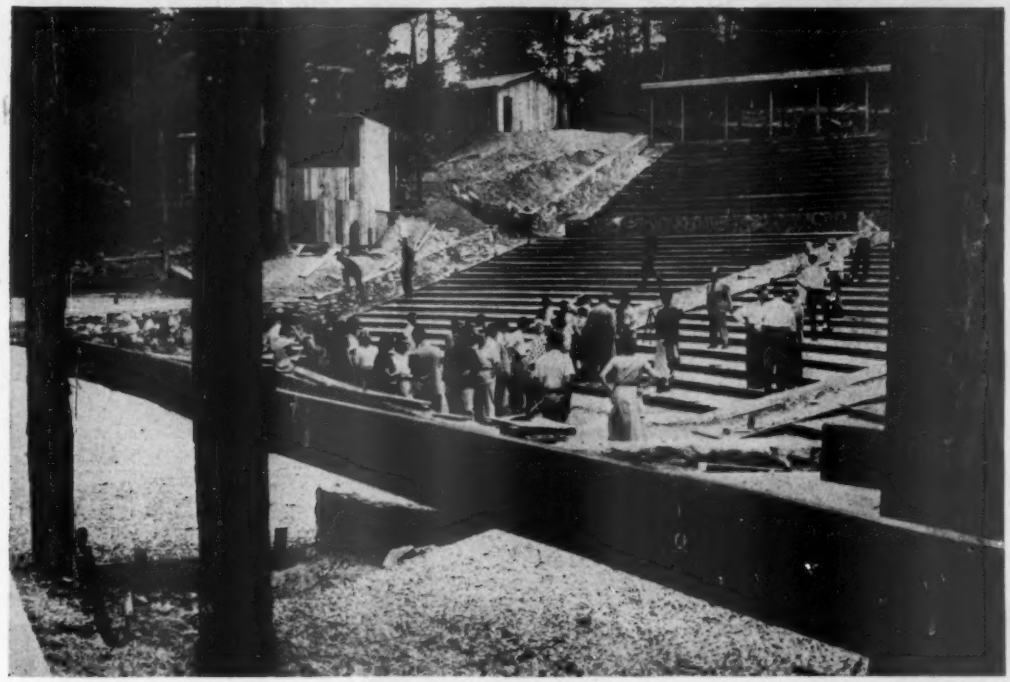
North Carolina: Tourists Line Up at

THE LOST COLONY, now starting its 12th season, is enacted on the island of Manteo, where settlers landed in 1585.

For many years, tourist-minded states have been using the summer theater idea as a come-on for vacationists, who feel they're getting double value if they can enjoy the great outdoors and at the same time catch up on a few Broadway shows. Some communities, like Aspen, Colo., and Lenox, Mass. (Berkshire Festival), have found it even more profitable to stage their programs outdoors.

North Carolina got into the act several years ago—but with a couple of new twists. Its four outdoor theaters feature state historical drama only; and instead of changing the bill every week or so, each theater runs the same performance all summer. In fact, one show has run continuously every summer since 1937.

• **$1-Million Business**—The dramas are full-blown theatrical productions, dealing with state history, and all written by topnotch writers—most of them Pulitzer Prize winners. All employ professional talent for the leading roles



OUTDOOR AMPHITHEATERS house the four shows running in North Carolina this season. The combined seating capacity of the theaters is 12,000. Shows expect to draw 500,000 in nine weeks.

the Box Office

and for such top-staff jobs as choreographers, conductors, directors, and costume designers—but use local talent for the bit roles and for maintenance crews.

The Tar Heel State is well pleased with the success of the theaters in previous seasons, and expects that this year the shows will draw 500,000 spectators during their nine-week season, and gross $1-million in ticket sales. But that's only a part of the catch. The state expects these travelers, in addition to seeing the stage shows, to unload a lot of money for lodging, restaurants, transportation, services, amusements. Last year, North Carolina's tourist business accounted for $350-million—making it the state's third largest industry. The state itself collects in taxes about 6¢ on every tourist dollar spent there.

• **Four Productions**—This year, North Carolina has added two new productions. Thunderland, a story of the life of Daniel Boone, is being staged on the Biltmore estate near Asheville; and Horn in the West, a drama of the southern Appalachian highlands, is being produced at Boone. The Lost Colony, which is playing at the Waterside Theater at Manteo, is now in its 12th season. Unto These Hills is starting its third season at the Mountainside Theater at Cherokee.

The combined seating capacity of the four theaters is 12,000. Orders for tickets, which sell for $1.50 to $3, are filled by mail, wire, or phone. In the case of Horn in the West, a tourist can arrange with the box office for hotel or motel reservations when he buys his ticket.

• **Pioneer**—Financially, The Lost Colony—which claims to be the granddad of all outdoor drama—has never been a glowing success, partly due to its island location. Written by Pulitzer Prize-winner Paul Green, the drama had its first season in 1937. It features the birth of Virginia Dare and the mysterious disappearance of Sir Walter Raleigh's colonists, and is enacted on the very spot where the English settlers landed in 1585. It has had glowing reviews from papers as far north as the New York Times. It finished its 1951 season with an attendance of 53,255, and its first profit—$6,000—which was applied against an operating deficit of long standing.

Both the state and the Roanoke Island Historical Assn. have contributed considerably to the support of The Lost Colony. But neither the state nor the association measures its success in terms of hard dollars. They feel that its value lies in the number of valuable tourist dollars it draws into the community.

It's also the easy way to teach American history to both young and old. That appeals most strongly to vacationing families, which rank high among tourists in outlay of cash for food, shelter, and amusement.

• **Cherokee Story**—The other veteran drama, Unto These Hills, as often as not has had the SRO sign out for the past two seasons, despite its seating capacity of 3,000. The Cherokee drama, written by Kermit Hunter, drew 151,750 pay customers during its 1951 run. It's the story of the white man's inhumanity to the red man. Its sponsor, the Cherokee Historical Assn.,

". . . a town that staked its future as a tourist stop on 'Horn in the West' . . ."

NORTH CAROLINA starts on p. 90

hopes to make it even more successful during this year of heavy tourist vacationing.

Unto These Hills is probably one of the best things that ever has happened to the 3,000-odd Cherokees on the Qualla Indian Reservation. They participated in the building of the theater, play some of the roles, and get a take in the production's earnings in the form of salaries ($100,000 in the first two seasons). In addition, students from the Indian school in Cherokee take tourists on conducted tours of Indian homes—where the tourists have an incidental chance to buy the Indian handicraft.

The sponsoring Cherokee Association, a nonprofit organization, also takes profits from the play and plows them back into the Indian community in the form of scholarships and awards for the best products in Indian handicraft.

• **Coonskin Cap**—The two new productions, Thunderland and Horn in the West, both deal with the Daniel Boone legend.

Thunderland is sponsored by the Asheville-Biltmore College, which is to get all the profits. It was written by Hubert Haves with the musical score by Lamar Stringfield, a Pulitzer Prize winner. The production was angeled by the locally organized Sunset Hills Theatrical Corp.

• **No Hillbillies**—The idea for Horn in the West originated in the mind of Mrs. B. W. Stallings, of Boone. For years, Mrs. Stallings has been getting riled because of the way mountain people are usually pictured as hillbillies. She soon had the town and the nearby Appalachian State Teachers College interested.

In September, 1951, the Southern Appalachian Historical Assn. was founded, with its first objective to produce an historical drama. The society hired Hunter to write the drama, but soon after they started work on the production they realized that financially they had bitten off more than they could chew.

To get the necessary funds, the association issued $25 bonds, bearing 4% interest, payable September, 1955, or sooner. The townspeople dug deep to buy these bonds. Many had to borrow the money. But by that time, the town was thoroughly infected with the idea, and had almost literally staked its future as a tourist stop on Horn in the West.

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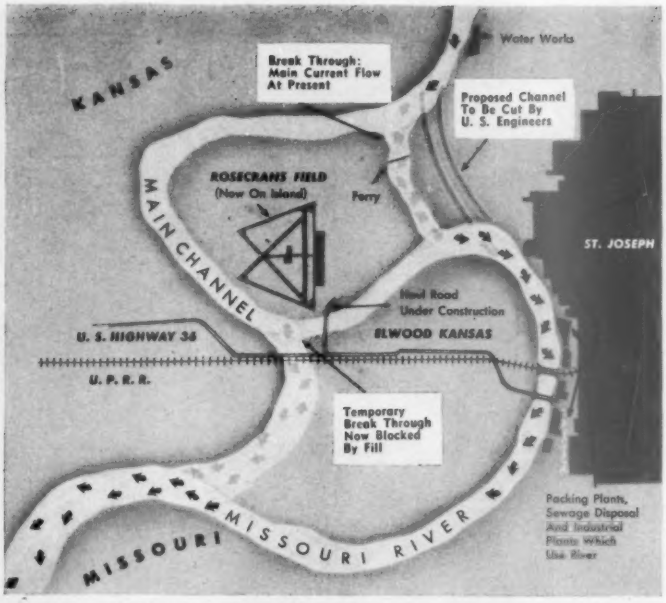


HOW FLOOD WATERS and Army Engineers cut new river channels shown above as . . .

Missouri Waltzes to New Bed

April floods cut across S-turn at St. Joseph in two places. Engineers have plugged one gap, will move the other new channel slightly eastward.

Getting along with the Missouri River is like dealing with an unreasonable child: Sometimes it's better to let it have its own way. The river is being allowed to keep one of the two short-cuts it made in the April flood at an S-curve off St. Joseph, Mo. (map). In fact, the Army Engineers are going to improve that cut-off, eliminating half of the S-curve entirely.

The second short-cut the river made was only a half-hearted attempt to leave St. Joe in a backwater instead of on the main stream. A lot of water trickled over the low banks and across the lower half of the S, but it lacked the channel-making drive that the northerly outbreak showed. So the Army Engineers have already plugged the hole there.

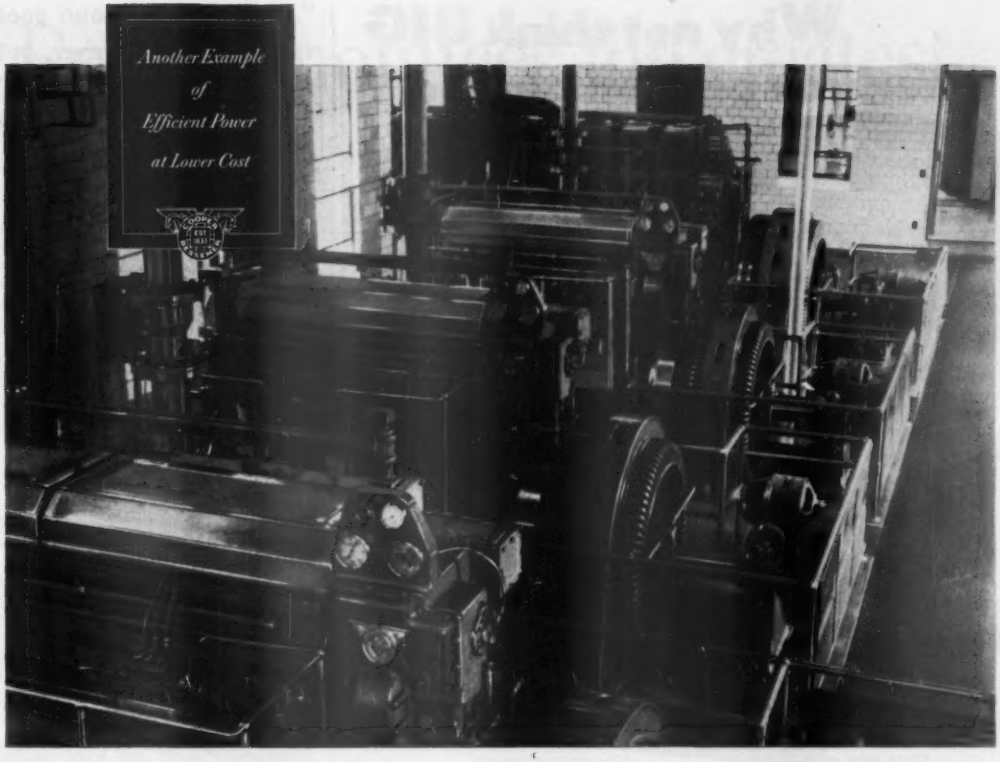
• **Flood Antics**—Nobody was particularly fond of the S-curve anyway. It was a smoldering fuse hooked up to flood dangers that were bound to erupt some day. The Missouri's banks are low; the curves run through flat bottomland. So no one was surprised when the river jumped out of its bed and cut crosslots.

The northerly break isolated Rosecrans Field, St. Joseph's airport and former Air Force base; the southerly break cut the Union Pacific R.R. and U.S. Highway 36 west of Elwood, Kan., St. Joe's cross-river neighbor. The railroad was washed out for 5 mi., the highway for about 2 mi.

When the downriver break opposite St. Joe threatened after the flood to leave a much reduced flow past the city, people were worried about what would happen to the city's sewer outlets and factory waste outlets. These would be worse than useless if they were left high and dry.

Engineers quickly determined that the southerly cut-off was merely a wandering overflow, blocked easily by piling and rock fill. That assured St. Joe of its normal waterlevel. The Union Pacific rebuilt its tracks and resumed service in mid-June, and the highway department restored Route 36.

• **New Channel**—The northerly break was a different matter. It was clear that the bulk of the water was pouring through the new cut, that the current would probably never resume its former loop around Rosecrans Field. Yet the new channel was unstable, too, with no strong natural limits. The sharp bends



How an Iowa town cut its horsepower feed bill

$10,000 A YEAR!

TOWNS *and* industries in most areas can cut power costs plenty by the use of modern gas-diesel engines. Here's a good example . . .

The four Cooper-Bessemer gas-diesels shown above power the Municipal Electric Plant at Ogden, Iowa. Originally, 16 years ago, this plant was powered by 3 of these same engines running entirely on diesel fuel oil. Then in 1944 came the Cooper-Bessemer gas-diesel development. The initial 3 engines were *converted*, and a new Cooper-Bessemer gas-diesel added. Now Ogden is easily saving $10,000 on fuel cost alone!

The gas-diesel, with its remarkable efficiency and economy, is only one of a long list of Cooper-Bessemer developments during recent years—developments that are saving big money in *all* kinds of stationary power applications. In marine and locomotive services, too!

Maybe *you* have power needs coming up? Be sure to find out about the *new* things being done by one of America's *oldest* engine builders.

The Cooper-Bessemer Corporation

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DIESELS • GAS ENGINES • GAS-DIESELS • ENGINE-DRIVEN AND MOTOR-DRIVEN COMPRESSORS • HIGH PRESSURE LIQUID PUMPS

". . . part of Missouri goes to far side of the river, but no fight is expected . . ."

MISSOURI starts on p. 94

at each end of the cut-off would encourage the river to erode the banks.

The solution was to move the channel eastward far enough to eliminate the lefthand turns and find a more natural riverbed. Whichever new channel was conceded to the Missouri, a bridge would have to be built somewhere to get access again to Rosecrans Field.

• **Reconstruction**—Army Engineers met last month with St. Joseph city officials and highway and railroad representatives to agree on the reconstruction plan. Here's what they decided to do, step by step:

• Open a ferry across the Missouri's chosen channel to serve Rosecrans Field and vicinity. A contractor is operating a workboat and a barge for the city as a ferry service.

• Build a haul road north from a point west of Elwood, crossing the old, drying-up riverbed on a trestle, for additional access to the site of the proposed channel. This route will be the permanent approach to Rosecrans Field from St. Joe. When it's ready, the ferry can close.

• Dig the new channel, 1 mi. long, about 800 ft. wide, and block up the Missouri's present cut-off. Engineers expect to direct water into the permanent bed in three months.

• **Jurisdiction**—Rosecrans Field thus switches from one side of the river to the other. Before the flood, it was east of the river; now and hereafter, it is west of the main channel. The old channel, swinging west of the field is expected eventually to dry up. Right now, the field is on an island.

There may be some question about which state owns the Rosecrans area from now on. After all, the locality does lie west of the Missouri River, which should put it in Kansas.

There's a precedent, though, for Missouri to hang onto the area, and no real fight is expected. Up at Omaha, a flood once caused the Missouri to cut off another S-curve, shifting the Iowa suburb of East Omaha to the Nebraska side of the main channel. East Omaha, however, stayed under Iowa sway. The old channel between Omaha and East Omaha remained as a lake and was incorporated into Omaha's park system as Carter Lake, a popular resort.

In St. Joe's case, the shift to a main channel east of Rosecrans Field probably would have come sometime, anyway. Army Engineers have long urged this channel change.

Royal announces the greatest new typewriter of all time!

Amazing new "Magic" Tabulator! Sensational new Carriage Control! Extra "Personalized" Key found on no other typewriter! 17 time-saving features!

In addition to an improved "Magic" Margin to make margin settings even easier than ever before, the new Royal Standard has a host of *new* and *exclusive* features! Not gadgets!

They are helpful, timesaving conveniences — each one designed with the operator in mind!

So, don't wait! You can have a free office trial of the new Royal Standard Typewriter simply by calling your local Royal representative.

1 **"Magic" Tabulator,** a new, exclusive feature which allows the secretary to operate tab with either finger or palm *without* moving her hands from the guide-key positions, aids speed.

"Magic" and "Touch Control" are registered trade-marks of Royal Typewriter Company, Inc.

2 **Carriage Control,** a new, exclusive feature which lets the secretary suit the carriage tension to her needs. Just a flip of the knob does it! No need to call in a repair man! What a convenience!

3 **Extra "Personalized" Key.** At no extra cost—a 43rd key with your choice of 3 combinations shown. Or, at slight extra charge, other combinations or business trade-marks.

4 **New Timesaver Top.** Look at the convenience here! "Touch Control" within easy reach. Easy-to-get-at spools for ribbon-changing. Press button . . . it's all instantly accessible.

See the Wonderful New Royal Standard Now!

GUNS AND AMMUNITION are the core of Olin Industries' broad range of products. But it is still widening its stride. For . . .

Olin Industries Bets on Diversification

Olin Industries, Inc., is a name you rarely come across in print. Yet, before long Olin may be filling government orders for aluminum, right alongside the giants in the industry. It is one of the companies Washington may bring into the aluminum business, if it should decide to have another go at expanding domestic production.

This, in a sense, is a tribute to the versatility of publicity-shy Olin. Diversification is Olin's second name. It has been quietly multiplying itself almost since its first powder mill started operating 60 years ago. Today it is one of the largest, if least known, of the few great family-owned corporations that remain.

• **Milestones**—Just last week Olin stepped out again—this time into the field of compressed-air mining equipment. Olin acquired an interest in Armstrong Coalbreak Co., of Benton Harbor, Mich. It will handle exclusive sales and service of Armstrong compressors and other equipment for which Armstrong holds the basic patents.

The latest indication of Olin's success came this week. The company formed its eighth operating division—Forest Products Division, headquartered in Shreveport, La. It will operate properties and facilities Olin has in Arkansas, Louisiana, and Texas.

• **An Old Story**—The Armstrong deal is just one of several important moves Olin has made in its latest diversification splurge. In just the last few months it has . . .

• Purchased a 665-acre site on the Wabash River in Indiana where it may build a cellophane or other kind of plant.

• Acquired Ramset Fasteners, Inc., of Cleveland, Ohio—one of the country's oldest makers of powder-actuated industrial tools.

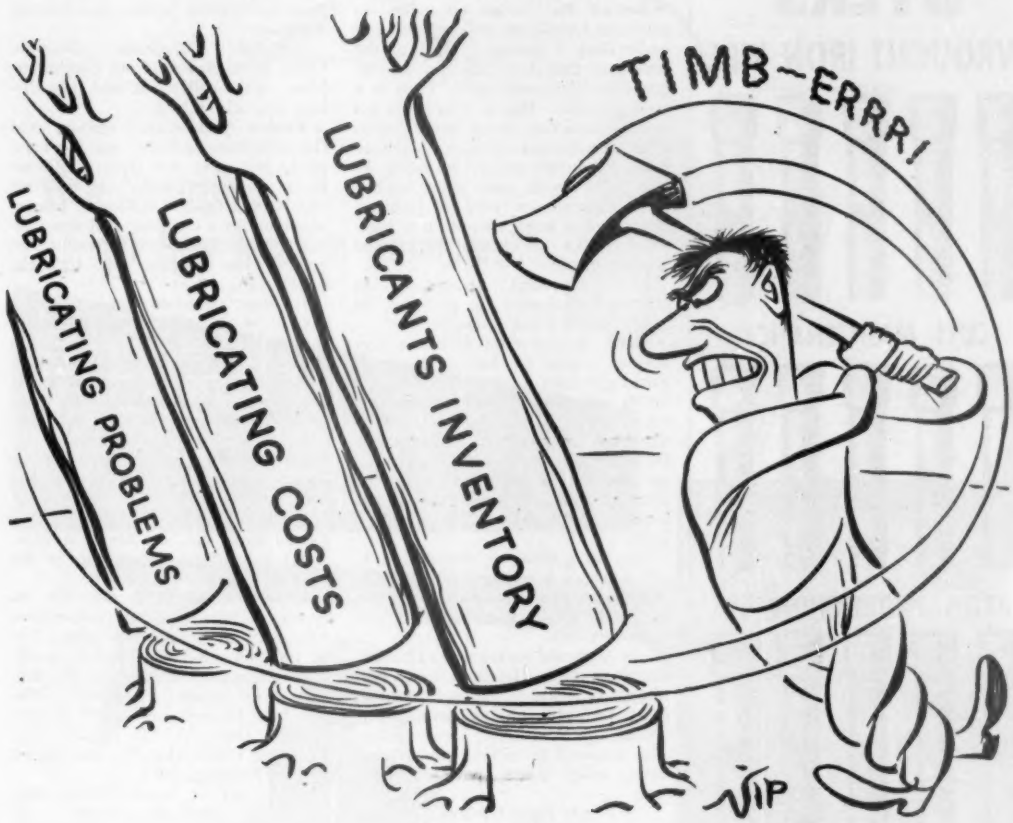
• Acquired Frost Lumber Industries, Inc.—a leading producer of southern pine and hardwood lumber. Olin plans to build a pulp mill on the Frost properties.

• **Change of Heart** — Until Olin brought Frost into the fold, Olin's business was kept in the family. The public knew virtually none of the facts of Olin's corporate or financial life. The company is still a long way from courting publicity. But a few months ago, it made public its annual report for the first time.

Operating results for 1951 showed that whatever went on behind the scenes had paid off. Net sales, with Frost's added in, totaled $168,185,679; net income before taxes was $29,568,149. The total of capital and surplus at the end of 1951 amounted to $90,281,979.

• **New Approach**—The Frost Lumber purchase also gave the general public its first crack at Olin stock. Up till that time, it was all held by the Olin family itself, plus a few employees and some officers.

Olin acquired the net assets of Frost by issuing 1,069,632 shares of Olin common. Since then, through Frost's onetime stockholders, at least 400,000 shares of Olin common have come on the over-the-counter market. Some brokers estimate the company now has about 2,500 stockholders. It is predicted that in the next year or



You can do it, too . . . with Pure Oil Industrial Lubricants

At one fell swoop, you can cut your inventory . . . cut your costs . . . cut your problems . . . with Pure Oil's complete line of industrial lubricants.

Many of these top-quality oils and greases, you see, are designed to do several *different* jobs instead of one specific job.

And to do each job *equally well.*

This enables you to do *all* your lubricating with *fewer* lubricants. In other words, you can

simplify and save . . . with
Pure Oil Industrial Lubricants

If you would like to swing a sharp axe on *your* lubricating costs (and who wouldn't, things being what they are!) write: The Pure Oil Company, Industrial Sales, 35 E. Wacker Drive, Chicago 1, Illinois.

THE PURE OIL PURE COMPANY, U.S.A.

Be sure with Pure

so, Olin will apply for listing its stock on the New York Stock Exchange.

• **Behind the Scenes**—Olin has no particular formula for making each new undertaking a success. Most of the companies that it has acquired are successes in their own right. Frost is a good example. This is what Olin got in the transaction: about 441,000 acres of lush timberland; three small lumber-hauling railroads and a controlling interest in a fourth; three going lumberyard concerns; an outdoor furniture plant; and a large interest in a hardwood lumber concern and a hardwood flooring plant.

Most important, perhaps, is an enormous potential in gas and oil rights on the Frost properties.

• **Good Reason**—Olin had one very obvious reason for buying Frost: It would give Olin its own source of pulp for its cellophane making. Olin has always combined diversification with integration, aiming at independence from outside suppliers. For that reason, most of Olin's products are related in some way to its main line—firearms and ammunition or allied fields.

This policy, however, doesn't seem to put much of a ceiling on the variety of Olin products. The company and its 20,000 employees are split up into seven divisions.

• Arms and Ammunition Division. Plants at New Haven, Conn., East Alton, Ill., and Cleveland (Ramset plant) turn out guns and ammunition (including Winchester arms which Olin acquired in 1931), special lubricants, roller skates, powder-actuated tools.

• Ecusta Paper Division. Plant in Pisgah Forest, N. C., produces cigarette and other fine, tough papers; endless woven belts used by the tobacco and other industries.

• Electrical Division. Plants at New Haven and Covington, Tenn., make flashlights, dry-cell batteries and manganese beside guns and ammunition.

• Explosives Division. Plants at East Alton, Pollard, and Edwards, Ill.; Peru, Ind.; Los Gatos, Cal.; Mt. Braddock, Pa.; and Frederickson, Wash., make such things as commercial explosives; blasting caps and supplies; railway fuses, torpedoes, and other pyrotechnic items; smokeless ball powder; and military explosives.

• Frost Lumber Industries Division. Plants scattered throughout the South turn out pine and hardwood lumber, posts, poles and piling, treated lumber products, outdoor furniture, and hardwood flooring.

• Metals Division. Mills and fabricating plants at East Alton and New Haven produce thousands of fabricated parts made of brass and other nonferrous alloys, including auto hub-caps, caps for pencil erasers, flashlight cases, parts for cigarette lighters and washing machines.

• Olin Cellophane Division. Plants at Pisgah Forest and Cambridge, Mass., make cellophane and polyethylene film and tubing.

• **Farther Afield**—Olin's venture into the cellophane industry was the company's first move into relatively distant fields. For more than a year, du Pont had been dodging a monopoly charge, searching for a company that was willing and able to invest $20-million to get into the industry. Olin took the opportunity.

Du Pont agreed to license Olin under all of its cellophane patents, to furnish technical know-how; to design and build an eight-machine plant with a capacity of about 37-million lb. of cellophane a year, and to help train personnel and put the plant in operation. In return, Olin was to pay du Pont $500,000 when the contract was signed and another $500,000 when the plant was finished.

Production at the Olin Plant on its Ecusta Paper Co. site began in June, 1951; most of the output goes to the food and tobacco industries.

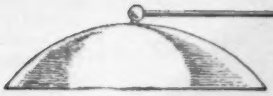
• **Close-Mouthed**—Ever since the beginning, Olin's business transactions have been strictly a family affair. Until 1944 Olin industries and its predecessor companies were under the firm hand of the founder, Franklin W. Olin, who built his first powder mill in 1892 at East Alton, Ill. He called it The Equitable Power Mfg. Co. and opened shop in February, 1893.

Olin was a hard-working man who never cared for publicity. He kept out of the news as much as he could—even though he was one of the wealthiest men in the Middle West.

• **Snowballing**—Before long, Olin had expanded his one-mill business into three powder mills. In 1898 Olin founded Western Cartridge Co., also at East Alton, to machine-load paper shot shells with Olin powder. This started the Olin snowball rolling. In 1907 Western bought Union Cap & Chemical Co., giving Olin its own source of primers and loosening some more strings to outside suppliers.

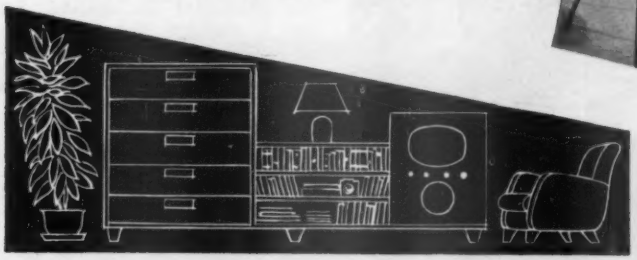
In 1914, Western Cartridge got its first war contract, from the French government. Then came 25 other contracts from the U.S. and its allies. It was the war that led Western into the brass mill field. Brass for cartridges became very scarce, so Western built its own mill in 1916.

• **Speed-Up**—After the war, the elder Olin speeded up his drive toward integration. The company had the ammunition, but it didn't have the guns its ammunition was fired in. So in



Molded Plywood chair by
J. G. Furniture Co., Inc.

New Strength
for New Ideas in Furniture...



...with Creative Chemistry
Your Partner in Progress!

Many of the striking new ideas expressed in today's furniture were neither practical nor possible a few years ago. That they are now is due in large part to chemical research in adhesives. Reichhold chemists, working with furniture and plywood manufacturers, have developed a complete line of resin glues and adhesives, each with a specific purpose, many of them making wood suitable for applications unheard of a few years ago. These resins are produced in Reichhold plants all over the United States as well as in foreign countries. With its worldwide organization of specialists in fields ranging from paper to plastics, RCI is able to develop new ideas, new opportunities for the manufacturer . . . through creative chemistry.

REICHHOLD CHEMICALS, INC.

630 Fifth Avenue, New York 20, N. Y.

RCI

1931, Western bought Winchester Repeating Arms Co. which not only produced firearms but was one of Western's competitors in ammunition production.

Olin's biggest project during World War II was the St. Louis Ordnance Plant, run by the Olin-owned U. S. Cartridge Co. All was not sweetness and light, however. In 1943, the government sued U. S. Cartridge for damages of about $215-million, for reasons stemming from alleged failure to inspect certain ammunition properly. Last year, after a lengthy trial, the U. S. District Court decided in favor of Olin. The government has appealed, but Olin is confident that the District Court decision will win out.

It may be mere coincidence, but the year the suit was filed, Olin began to overcome some of its reticence about publicity. In 1943 the company retained Steve Hannagan, of New York, to handle public relations. That led to creation of Olin's new director of public information post just a few months ago.

• **Merger**—It wasn't until 1944 that Olin's integration became really solid. First Olin merged the various enterprises it controlled in Western Cartridge Co., then changed its name to Olin Industries, Inc. This happened just before Franklin Olin's 85th birthday when he moved into the background. His son, John M. Olin, became the first president of Olin Industries, Inc., the position he holds now. Younger brother Spencer took over as first vice-president.

The boys are said to be even more expansion-minded than their father. At any rate, there's clearly no end in sight yet. The company has a big hunk of capital to spend on itself. In addition, Prudential Insurance Co. has entered into a standby loan agreement for $133-million of capital investment—"to cover any new activities now foreseeable."

• **Go-ahead**—The most exciting prospect is that Olin might become a producer of aluminum. It is large enough and well-heeled to undertake the job.

The company got a taste of aluminum during World War II when it operated two plants for the government. One, at Tacoma, Wash., reduced alumina to aluminum, turned out around 100-million lb. altogether. The other was an experimental operation at Salt Lake City, where Olin converted alunite to alumina.

Olin missed the first round of postwar aluminum expansion, when the government brought Anaconda into the field (BW—Nov.10'52,p20). Olin got in its bid last year. Right now, production officials are winding up for the second round of expansion, and Olin heads the list of likely prospects.

PROBLEM: Sharp pictures from an inexpensive camera

PHOTOGRAPHED WITH A BEACON 220 CAMERA

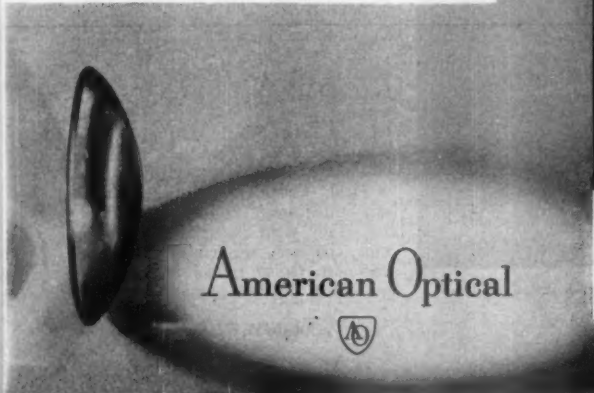
ANSWER: On request, American Optical recently designed, and is now producing, a new exclusive doublet lens which is being used in the inexpensive Beacon Camera. Enlargements from 2¼" x 2¼" are pleasantly sharp. A half million Beacon Cameras have been sold. Write us about your development problems. Address American Optical Company, 39 Vision Park, Southbridge, Massachusetts.

PROBLEM: To stare at a welder's torch and not go blind

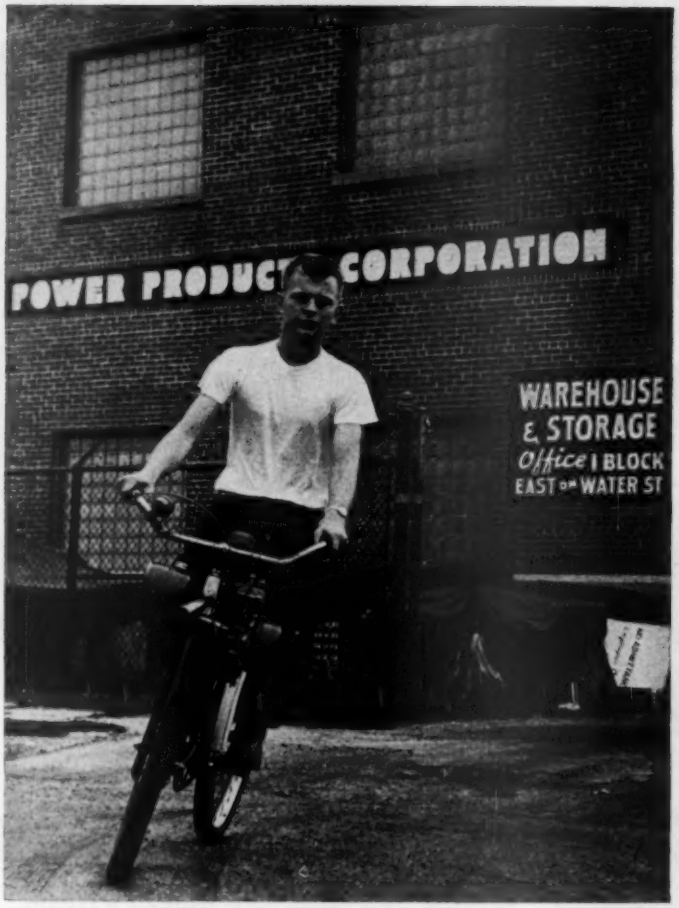
ANSWER: Research indicates that ultraviolet and infrared are the villains that cause welder's keratitis or "flash eye," a painful condition brought about by looking at a welder's torch. To keep welders' eyes cool and safe, American Optical scientists developed Novi-weld glass, which absorbs 98 per cent of the ultraviolet and infrared rays.

PROBLEM: To grind glass without scratches

ANSWER: Poorly graded abrasives cause scratches on glass, hard to polish out. The abrasives we use are made from natural crystals, generally hexagonal in shape—not splinters that dig and scratch. Our centrifugal grading process guarantees uniformity of particle size to 1/5000 of an inch.



American Optical



WILL THEY STAND UP? Boy (left) starts long test ride on bike with PPC engine.

At right, v-p Krueger tries out chain saw.

TOP BRASS study mockup of new engine. President Lueloff is seated, center.

Field Testing:

Just after World War II, Power Products Corp. set up in the business of making light, portable, two-cycle engines in Grafton, Wis. Chief assets of the company were an idea, a small swatch of money, and an abundant supply of cockiness.

Two years later, Power Products fell deep in the mire. Cockiness—in the form of rushing out new-design engines without adequate field testing—did the tripping. Sales, which had topped $1.3-million in 1947, sagged sadly to $500,-000, pulled down by cancellations.

• **Field Tests**—The company didn't stay mired long. It dusted itself off, and really went back to work. This time, cockiness was tempered by thoroughness. Design specialists were called in and a $50,000-a-year program of

ROTARY MOWERS take 60% of PPC engines. This hookup tests a batch of them.

Key to a Boom in Engines

field testing was set up immediately.

The happy ending comes this week when Power Products plays host to the trade press. The occasion is to celebrate a solid expansion. Power Products expects to turn out between 300,000 and 350,000 engines this year; claims half of the 1 hp. to 3 hp. engine market for chain saws; and is a major factor in the production of engines for rotary-type lawn mowers. Sales last year ran at a $500,000 a month clip.

• **Lightweight**—The idea to which Power Products hitched its wagon was that there was a big market for small horsepower, lightweight engines, based on the two-cycle principle and using light metals.

The two-cycle engine differs from the standard four-cycle internal combustion engine in this way. In the four cycle, the piston makes two round trips up and down for each explosion. One trip serves to bring in and then compress vaporized fuel. The explosion starts the second trip, the power push of the piston; on the return stroke comes the exhaust. In the two-cycle, all these functions are completed in a single round trip of the piston.

The two-cycle principle permits simpler design and fewer parts, hence lends itself particularly to small, low-horsepower engines. Its inherent disadvantage—a tendency to less efficient combustion—is offset by its weight advantage.

• **Outboard Motors**—The idea of a portable two-cycle engine came, rather

FAST-GROWING. Lueloff and Krueger check on construction of new building.

as a byproduct, to Reuben T. Lueloff and Robert G. Krueger (cover) back in 1944. The two were employed by West Bend (Wis.) Aluminum Co., assigned to developing an outboard motor division. Lueloff, a specialist in sales and administration, kept bumping into people who harped on the need for portable power units, not chained to an electric outlet.

Lueloff talked it over with Krueger, an engineer addicted to outboard racing. The two tried to sell the idea to their own company. When that failed, they finally set up their own outfit. Today, Lueloff is president, Krueger is vice-president.

Original capital was just $103,000, raised largely by friends. That, plus some hundreds of thousands of dollars taken later out of earnings, was all the capital they had until late last month when the company secured a long-term loan of $600,000, largely for expansion.

• **Community Help**—The village of Grafton got the nod for the plant site, when cooperative leaders in the community raised the $65,000 to build the first factory. That debt was wiped out only last month. The Grafton State Bank, which handled the mortgage notes, also financed the company in its toddling days.

The toddling lengthened out to fairly firm strides in 1947 when over a million dollars worth of sales came largely from engines for compressors and generators.

• **Time of Troubles**—Next year, came real trouble. Savage Arms Co., invading the field of reel-type power mowers, ordered up to 40,000 engines from Power Products. The company dove into the million-dollar order, started to deliver engines at a 3,000-a-month rate. The engine had been tested extensively in the laboratory, but scarcely at all in the field.

Almost immediately Savage Arms was deluged with complaints of engine failure. Tests were hasily improvised and it was found that the carburetor, which had performed valiantly in the cloistered lab, was not up to the shocks and dust of actual mowing.

• **New Methods**—Lueloff and Krueger took stock, with business at an alltime low. The pair decided to abjure all optimistic faith in laboratory tests alone. Research was reoriented towards rotary type mowers and vertical-shaft engine applications. Engineers were hired, and the elaborate field testing setup was organized. Last year, 4,000 hours were devoted to testing mowers by cutting real grass. Boys working in eight-hour shifts test-rode bicycles powered with the company's machines all over the streets of Grafton. Power Products engines drove chain saws that chewed up forests of logs just to see if they could do it.

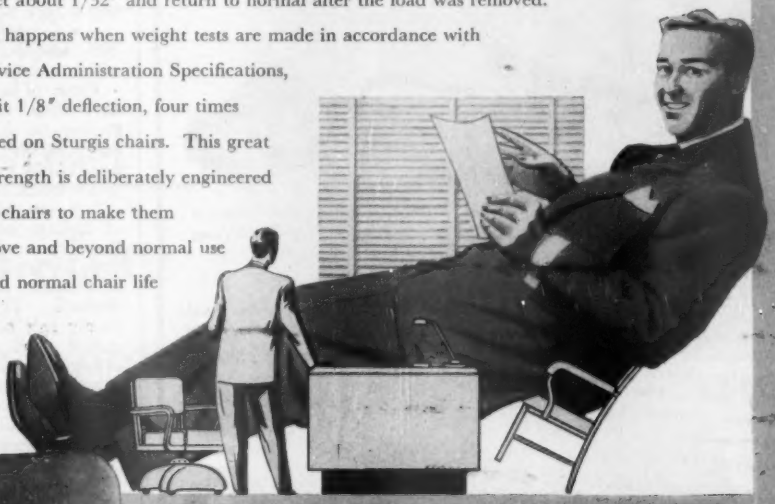
Strongly confident of the new methods, and with cockiness unimpaired, Power Products set out to reconquer its chosen world. The break came when the company convinced lawn-mower makers that it could produce a light engine with an aluminum housing for $20. The model caught on fast in the spring of 1950. Sears, Roebuck alone sold some 40,000 mowers powered by the new engine.

By 1951, Power Products' morale was completely restored; it cheerfully advertised that its Roto-Power was the "perfect engine for rotary lawn mowers." Power Products engineers make quite a list of impressive claims for their motors:

• Their units are 20 lb. lighter

A 1700-pound man will never lean back in a Sturgis guest chair, but...

. . . but if he did, we know what would happen. The steel frame would deflect about 1/32″ and return to normal after the load was removed. That's what happens when weight tests are made in accordance with General Service Administration Specifications, which permit 1/8″ deflection, four times that measured on Sturgis chairs. This great reserve of strength is deliberately engineered into Sturgis chairs to make them perform above and beyond normal use demands and normal chair life expectancy.



The Sturgis No. 1225 Guest Chair

Sturgis chairs are engineered for keeps. You can't see all the quality engineered into a Sturgis chair but it's there in full measure—and because it's there a Sturgis chair is a long term investment in office comfort and efficiency. Today the finest executive, secretarial, clerical, guest and institutional metal chairs are being produced by The Sturgis Posture Chair Company, Sturgis, Michigan.

Sturgis
POSTURE CHAIRS

"... Workers are practically standing on each other's shoulders . . ."

POWER PRODUCTS starts on p. 104

than four-cycle engines of comparable horsepower.

• Their engine produces twice the power with half the mass of competitors' units. In the chain-saw field, this meant that Power Products could sell for $250 equipment which had never before been below $385.

• A current program will shave 20% off costs of making the engines within two years.

Plenty of manufacturers seem to believe these claims. Power Products engines are shipped out the day they are completed, though production is now 20,000 units a month, with 30,000 a month expected by late summer.

Last year, Monark Silver King, Inc., of Chicago sold 50,000 mowers with Roto-Power. Power Products has become an engine supplier for 15 major lawn-mower sellers including Sears, Roebuck, Firestone, and Spiegel. Nearly half of the 15 top chain-saw makers use its engines.

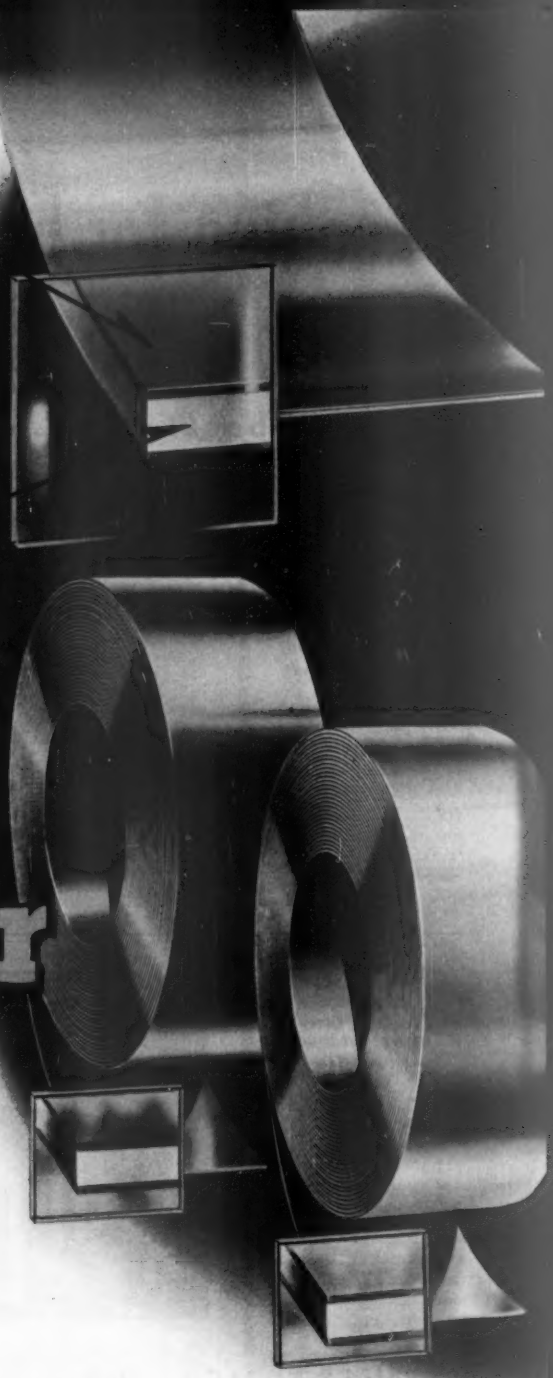
• **Integration**—Lueloff and Krueger learned a second lesson from their Savage Arms fiasco. Today, when a customer approaches the company, engineers are assigned to integrating the power unit with the proposed product. Pilot models are built at the Grafton plant, and extensively field tested to make sure that the engine suits the tool and vice versa. No contract for full production is signed until engine and machine have proved themselves. Lueloff figures it costs from $3,000 to $10,000 just to deliver one of these specially tailored pilot models to the customer.

• **Elbow-Room**—Despite this care and thoroughness, Power Products expects to turn out half a million units next year. Expansion space is desperately needed. Right now, a 10,000-sq. ft. addition to the original 14,000-sq.-ft. plant is being rushed to completion; workers are practically standing on each other's shoulders in the old building where the company got its start.

The $600,000 loan is expected to end the overcrowding once and for all. A big share of the money will go toward starting the first of a series of 25,000-sq.-ft. units, at a new site in Grafton.

The troubles of 1948 seem well in the past, now, to Power Products management. Lueloff sums up the situation this way: "It's a combination of working hard and thinking intelligently. When you do both of these, you usually get some breaks, too."

All copper (or brass) where you need it- -and steel where steel serves best



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CLAD METALS

SuVeneer Clad Metals give you *surfaces* of genuine solid copper or brass, to do the jobs for which you ordinarily specify these materials . . . with the big new plus of *steel* for greater strength, twice the elasticity, and lighter weight, than either copper or brass used alone. • You save critical metals for defense—you benefit your products' performance—when you specify time-proved **SuVeneer** Clad Metals. *Let us work with you!*

Superior Steel
CORPORATION
CARNEGIE, PENNSYLVANIA

Looking for better ways to do things? We can help.

Our booklet tells you more than this ad

HARTFORD-EMPIRE CO.
HARTFORD 2, CONNECTICUT

Please send literature checked below:

- ☐ "How Emhart Can Help"
- ☐ "Batch Charging Systems"
- ☐ "Lehr Loaders"
- ☐ "Annealing and Decorating Lehrs"
- ☐ "Glass Making Equipment and Services"

NAME_____
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COMPANY_____
ADDRESS_____
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PRECISION UNDER INFERNAL CONDITIONS

Molten gobs of glass dart into Hartford-Empire forming machines with projectile-like speed. This continuous and orderly barrage of hot "shots" is quickly converted into bottles at rates up to 125 per minute. These machines exemplify Hartford-Empire's known ability to design and build equipment for sustained operation under gruelling conditions.

HARTFORD-EMPIRE CO.
Division of Emhart Mfg. Co.
HARTFORD 2, CONNECTICUT

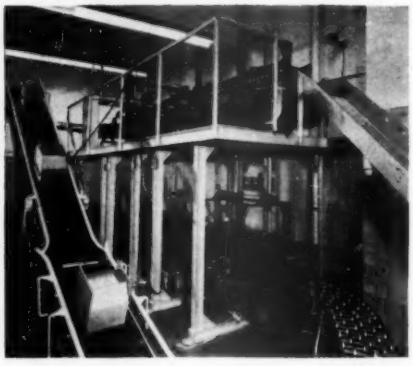
S-K

STANDARD-KNAPP
PORTLAND, CONNECTICUT

Please send literature checked below:

- ☐ "How Emhart Can Help"
- ☐ "Bottle and Can Packers"
- ☐ "Carton and Bag Packers"
- ☐ "Labelers"
- ☐ "Closers and Sealers"
- ☐ "Automatic Cartoning Units"
- ☐ "Palletizers and De-palletizers"

NAME_____
TITLE_____
COMPANY_____
ADDRESS_____
CITY & STATE_____



SAVINGS IN SHIPPING PREPARATIONS

Shipping cases come out of Standard-Knapp equipment with proper seals and protection of product. Many models available to improve your shipping case handling and make it less costly. Other Standard-Knapp machines reduce the cost of cartoning, labeling, rinsing, packing, conveying, palletizing and de-palletizing.

STANDARD-KNAPP
Division of Emhart Mfg. Co.
PORTLAND, CONNECTICUT

EMHART MFG. CO.

Only the best is good enough

BASHED BUT NOT SMASHED

New 6½ and 13 gal. plastic carboy bottles developed by Plax solve age-old problem of shipping corrosive chemicals safely and conveniently. Blow-molded in one piece of polyethylene, they are unbreakable, light in weight, chemically inert and will not crack if contents are frozen. Smaller Plax® plastic bottles are already being used for hundreds of consumer and industrial products.

PLAX CORPORATION
Subsidiary of Emhart Mfg. Co.
HARTFORD 1, CONNECTICUT

PLAX CORPORATION
HARTFORD 1, CONNECTICUT

Please send literature checked below:

- ☐ "How Emhart Can Help"
- ☐ "Plaxpak Polyethylene Bottles"
- ☐ "Fabricating of Polystyrene"
- ☐ "Plastics for Industrial Use"

NAME_____
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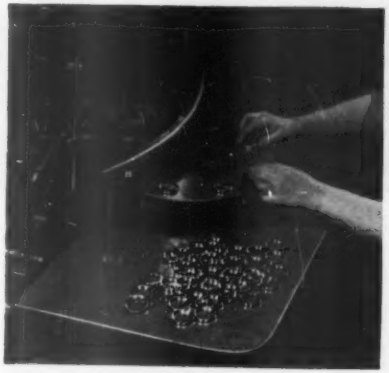
BOOSTING PRODUCTION REDUCING INSURANCE

Hands are always out of the danger zone in power press operation with the V & O Feed-O-Matic®. Parts are fed into press by mechanical hand. Operators simply place parts in nests on small rotating dial. Result: simpler, less fatiguing motions for operator; more parts; no accidents; lower compensation rates.

THE V & O PRESS CO.
Division of Emhart Mfg. Co.
400 Union Turnpike, HUDSON, NEW YORK



THE V & O PRESS CO.
400 Union Turnpike,
HUDSON, NEW YORK

Please send literature checked below:

- ☐ "How Emhart Can Help"
- ☐ "Inclinable Open Back Presses"
- ☐ "Punch Press Feeders"
- ☐ "High Speed Notchers"
- ☐ "Horning and Wiring Presses"
- ☐ "Roll and Dial Feeds"

NAME_____
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ELECTRONICS SOLVES MYSTERY

New Henry & Wright electronic instrument accurately and instantly measures power press loads. Takes mystery out of what is happening during press operation; shuts press down instantly if overloaded. Dieometer's information permits improved metal stamping operations, elimination of expensive press and die damage and consequent lost production time.

HENRY & WRIGHT
Division of Emhart Mfg. Co.
510 Windsor Street, HARTFORD 5, CONN.

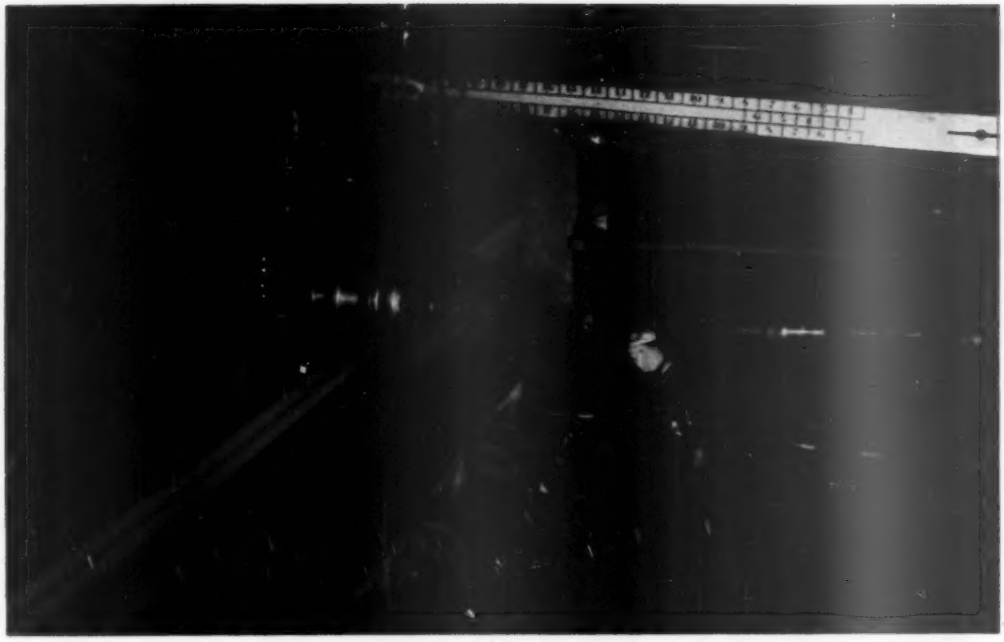
HENRY & WRIGHT
510 Windsor Street
HARTFORD 5, CONNECTICUT

Please send literature checked below:

- ☐ "How Emhart Can Help"
- ☐ "Dieing Machines Catalog"
- ☐ "Examples of Progressive Dieing"

NAME_____
TITLE_____
COMPANY_____
ADDRESS_____
CITY & STATE_____

OUR BOOKLET, "HOW EMHART CAN HELP" is available from any of the member companies. It demonstrates the design, development, and production skills here—clearly shows the unique combination of experience and know-how that you can put to use, no matter what you make.



Here's the structural shape of things to come!

From this basic structural steel shape, rolled from an ingot in this mill at Barium's Phoenix Iron & Steel Co., Phoenixville, Pa., comes so many of the metal things basic to our economy.

Basic shapes become basic products *right within Barium's family of subsidiaries,* as the photos below show you. Don't you think that such a *coordinated* effort in steel can serve your steel needs best?

It will pay you to look into the group of strategically located companies known as Barium Steel Corporation . . . controlling quality from blast furnace to finished product . . . working as a self-contained unit to speed urgently needed orders.

For information on how the Barium team can bring joint knowledge to bear to solve your steel problem, address your problem to Barium at 25 Broad St., New York City. No obligation.

BAYONNE BOLT CORP. • CENTRAL IRON AND STEEL COMPANY • CHESTER BLAST FURNACE • CLYDE IRON WORKS, INC. • CUYAHOGA SPRING COMPANY • ERIE BOLT AND NUT COMPANY • GEOMETRIC STAMPING CO. • GLOBE FORGE INCORPORATED • INDUSTRIAL FORGE & STEEL INC. • JACOBS AIRCRAFT ENGINE CO. • KERMATH MANUFACTURING CO. • KERMATH LIMITED (CANADA) • PHOENIX BRIDGE CO. • PHOENIX IRON & STEEL CO. • WILEY MANUFACTURING CO.

This stiff leg crane was built at Barium's Clyde Iron Works, Inc., Duluth, Minn., from structural steel of its sister subsidiary, Phoenix. Whirley cranes, hoists, derricks are other Clyde products.

Phoenix structural steel is here used by another Barium member, Wiley Manufacturing Co., Port Deposit, Md., to build barges. Wiley also makes floating cranes, other materials-handling equipment.

This bridge girder is constructed from Phoenix structural steel by Barium's Phoenix Bridge Co., Phoenixville, Pa. This company builds and engineers bridges, buildings and other fabrications.

If you bought OPEN-END Funds in 1950...

...You'd Do This Well.

OPEN-END FUNDS	June 23 1950 Cost Price (1)	June 23, 1952 Value (2)	Dividend Payments From Security Profits	Dividend Payments From Investment Income	"Korean War" Results (3) Capital Gains	"Korean War" Results (3) Div. Yield
Affiliated Fund*	$4.97	$4.84	$0.69	$0.47	11.3%	4.7%
American Business Shares**	4.38	4.01	0.42	0.32	1.1	3.7
Axe-Houghton Fund "A"*	9.54	9.95	0.98	0.74	14.6	3.9
Boston Fund*	24.43	23.24	1.85	1.82	2.7	3.7
Bullock Fund*	23.20	24.24	1.72	2.48	11.9	5.3
Chemical Fund*	18.98	21.31	1.93	1.30	22.4	3.4
Commonwealth Investment*	6.63	6.91	0.34	0.55	9.4	4.1
Eaton & Howard Balanced Fund**	30.73	31.84	1.40	2.48	8.2	4.0
Fundamental Investors*	18.24	20.04	0.84	1.90	14.5	5.2
Incorporated Investors*	9.23	11.31	0.38	0.74	26.7	4.0
Investors Management Fund*	16.84	18.73	1.82	1.66	22.0	4.93
Keystone "Quality Comm." Fund*	35.25	35.18	4.18	3.06	11.6	4.3
Keystone "Low-price Comm." Fund*	5.95	7.32	0.59	0.61	32.9	5.1
Knickerbocker Fund*	5.80	6.00	0.34	0.63	9.3	5.4
Mass. Investors Trust*	33.34	39.55	1.10	3.69	30.0	5.5
National Investors*	11.55	12.48	1.37	1.03	19.9	4.5
Nation-Wide Securities**	15.59	15.66	0.46	1.34	3.4	4.3
Putnam (George) Fund**	17.86	19.11	0.61	1.54	10.4	4.3
United Income Fund*	11.62	12.40	0.54	1.26	11.4	5.4
Wellington Fund**	20.57	20.50	0.65	1.65	10.4	4.1

But if you bought many Individual Stocks...

...You'd Have Done Well Too.

INDIVIDUAL STOCKS						
Aluminum Co.	$61.73	$76.22	———	$5.25	23.5%	4.2%
American Smelt. & Ref. Co.	28.15	40.09	———	7.25	42.4	12.9
Amer. Tel. & Tel.	160.55	150.72	———	18.00	— 6.1	5.6
Atch., Top. & Santa Fe	60.34	88.99	———	9.25	47.5	7.7
Chrysler Corp.	81.30	76.22	———	16.75	— 6.2	10.3
Dow Chemical	69.56	118.65	———	4.80	70.6	3.5
E. I. du Pont de Nemours	81.04	85.75	———	7.95	5.8	4.9
General Electric	50.24	58.16	———	6.70	15.8	6.7
General Motors	49.36	56.06	———	10.50	13.6	10.6
Goodyear Tire & Rubber	27.52	43.31	———	6.00	57.4	10.9
Gulf Oil	36.92	53.45	———	4.75	44.8	6.5
Inland Steel	42.04	44.30	———	7.50	5.4	8.9
Int'l Harvester	27.27	31.68	———	4.30	16.2	7.9
National Steel	41.16	44.92	———	6.25	9.1	7.6
Norfolk & Western	46.96	47.88	———	7.00	2.0	7.5
Standard Oil (N.J.)	40.02	77.59	———	7.62	93.9	9.5
Texas Co.	35.86	55.81	———	6.10	55.6	8.5
Thompson Products	29.41	46.40	———	3.87	57.8	6.6
Union Carbide & Carbon	49.99	65.33	———	4.50	30.7	4.5
Union Pacific	86.48	111.68	———	12.00	29.1	6.9

(1) Open-end fund shares at net asset value plus loading charge assessed buyers; other stocks at market value plus estimated buying cost based on 10-share odd-lot purchase. (2) Open-end fund shares: redemption price available to holders; other stocks: market value less selling cost. (3) Capital gains of open-end fund shares include dividend paid from security profits in period. Dividend yield is average annual rate for two year in question. *Exclusively common stock funds. **Can hold bonds, preferreds and/or commons. N.B. Where necessary prices have been adjusted to stock splits.

Trusts Keep Booming

Back before the war, the Securities & Exchange Commission called the rise of the investment trusts "probably the most important single development in the financial history of

the United States during the past 50 years."

It's a cinch that the Commission hasn't changed its mind since. For the love affair between the nation's security buyers and the trusts has been growing ever since.

In 10 years, the assets of the trade have almost quintupled, from $925-million in 1941 to $4.5-billion now. The number of stockholders has jumped 85%, to over 1.5-million.

• **Closed-End**—Some of these gains were contributed by the so-called closed-end investment companies. Although these operate with fixed capitalizations, their assets rose 80% in the decade—from $523-million to the neighborhood of $1-billion.

Still, that's a drop in the bucket compared with the gains of the open-end funds—the group that constantly sells new shares to the public. At the end of 1951, assets of the open-end trusts added up to well over $3.1-billion, compared with $401-million 10 years before. The growth has continued since then. Preliminary reports indicate that by mid-1952 the group's resources had jumped another $400-million. That $3.5-billion total is more than eight times the 1941 figure.

• **Price Rise**—Obviously, part of this gain is due to the general—if repeatedly interrupted—rise of security prices (page 32). But the constant sale of new shares by the open-end funds has been a much bigger factor. Gross sales last year were nearly $700-million, as against $53-million in 1941.

According to the trade, there are two basic reasons for these mounting sales of trust shares:

• The trusts permit small investors to diversify their holdings far more than they could on their own hook.

• They allow both large and small investors to profit from the experience, judgment, and access to information possessed by men who have made money management their life work.

Trade circles say that seasoned investors—well up in the financial ABC's of what securities to buy, when to buy them, how long to hold them—have been as eager to take shelter in the open-end trusts as the novices.

• **The Obverse**—This generally cheerful picture doesn't mean that the open-end funds have all the answers.

In some respects, their recent rapid growth has been no more than what you would expect. The group's sales volume traditionally goes up during periods of rising markets. Lately, this normal tempo of rise has been speeded up by modern selling methods, a sales crew of about 10,000, plus wide—and often extravagant—claims.

Actually, the funds aren't necessarily fool-proof. As they stand now, they have never been up against any real,

Is your packaging problem any tougher than this?

Some products are temperamental.

They can't tolerate air or light. The least bit of change in aroma or flavor hurts their salability.

If you're concerned with marketing such a product, it will pay you to consider what has been accomplished for beer and ale—by the can trademarked "Keglined."

Originated by American Can Company in 1935, this *first nonreturnable* beer container has met the needs of the consumer, the retailer and the industry from the beginning. It is light, compact, easy to carry. Its flat top makes it easy to pack, easy to stack in the refrigerator.

It is strong enough to withstand pasteurization pressures. And this container's hard, flavor-protecting lining can deliver brewery-fresh flavor to any place on earth.

For 17 years, this original beer can has steadily pushed up sales of packaged beer and ale. And the Canco research and mass-production skills it represents hold great promise to any manufacturer with a tough packaging problem.

So, before you take it for granted that your product can't be packaged more attractively, efficiently and economically in metal, consult Canco. Just write the American Can Company office nearest you.

AMERICAN CAN CO.

CANCO

NEW YORK
CHICAGO
SAN FRANCISCO
HAMILTON
CANADA

prolonged tough going. If market prices do a really deep dive, the funds may be just as unhappy as they were in the bear markets of the 1930s.

How sad that was is told by the story of one of the most smartly-run funds. You would have taken a cool 85% capital loss if you had bought its shares at their 1929 high and sold them at the 1932 low. In the short-lived bear market of 1937-1938, the same shares—despite very widely diversified holdings—fell off 50%.

• **Comparison**—It's just not so when a salesman tells you that open-end shares assure you of an above-the-average market showing. The compilation on page 113 shows that this isn't always the case. This table was designed to compare the results of two different investments made just before the Korean invasion and held at the end of the second year of the Korean bull market. The two packages consist of:

• Shares of 20 representative open-end funds.

• Ten-share odd lots of the stock of 20 prominent corporations, bought directly.

The table shows that some of the open-ends did much better than some of the individual stocks. But more individuals than open-ends turned in superior showings. Not even the most violent partisan could deny that, on balance, you would have fared much better with the list of individuals than with the list of open-ends.

The individual shares showed an average capital appreciation of 30.4%, despite losses shown by two of them. The open-end funds gained only 14.2%. Average yearly dividend returns for the individuals were also much better; 7.6% compared with 4.5% for the funds.

• **High Cost**—There are plenty of reasons to account for this comparative showing; for one thing, the open-end funds don't give away all their diversification and expert advice. Initial cost of the shares is high, unless you buy a big block. All customers, even those merely adding to previous holdings, have to pay an average "loading charge" of 8% on top of the net asset value of the stock. That adds up. It costs $108 to get $100 worth of stock. Thus it would take a market rise of 8%—quite a hefty one—to get the investor caught up with himself, much less ahead of the game.

On top of the loading charge, there's a management fee that generally runs 0.5% of net assets annually. That may sound small, but it has been taking an average 15% of yearly investment income.

Buying individual stocks costs money, too, but the open-end fund shares cost much more to buy—though they can usually be cashed in without charge later. For the individual stocks, the

10-share units mentioned in the table could be bought and sold for fees amounting to about 2% on the purchase price.

These dollar-and-cents considerations aren't the only reasons for the price and dividend gaps between the individual and open-end shares cited in the table.

• **Variants**—The different open-end shares varied as much among themselves as the individual stocks did. That's because of the basic differences in purpose among the funds. Some limit themselves exclusively to common stocks, or bonds, or preferred. Some maintain constantly shifting mixtures of all three. Others concentrate in, say, the shares of a single industry, or in low price commons, or in high-grade equities.

Even the trade admits that not all investment trusts have smart management. And there's no guarantee that today's good management won't deteriorate later.

• **Caveat Emptor**—Not all open-end fund salesmen will admit it, but what this all adds up to is that you have to buy their wares just as selectively as you would any other type of issue. It's not enough to study long-term results; you should also make sure the trust's investment objectives are your own.

	Sales (In Thousands) 1952	Sales (In Thousands) 1951	% Change 1952 vs. 1951	% Change 1st qtr. 1952 vs. 1st qtr. 1951	Net Profits (In Thousands) 1952	Net Profits (In Thousands) 1951	% Change 1952 vs. 1951	% Change 1st qtr. 1952 vs. 1st qtr. 1951
AIRCRAFT								
Northrop Aircraft (*A*)	$51,681	$27,268	+89.5	.....	$735	$1,005	−26.9	−21.5
Solar Aircraft (*A*)	16,134	9,196	+77.4	+79.0	517	651	−20.6	+17.8
AUTO PARTS								
Dana Corp. (*B*)	44,438	47,163	− 5.8	− 3.1	2,527	3,214	−21.4	+34.6
Kelsey-Hayes (*B*)	29,895	29,053	+ 2.9	− 3.4	1,077	1,317	−18.2	−20.6
King-Seeley (*B*)	8,192	10,234	−19.9	−24.2	397	508	−21.9	−21.6
Young Spring (*A*)	11,368	15,381	−26.1	.....	226	756	−70.1	−91.5
COMMODITIES								
Central Soya (*B*)	32,370	35,537	− 8.9	+18.8	760	1,140	−33.3	−17.9
Spencer Kellogg (*B*)	23,594	34,262	−31.1	−22.1	*D*248	2,203	.....	−78.7
ELECTRICAL GOODS								
Robbins & Myers (*B*)	6,373	6,379	− 0.1	+ 9.4	340	374	− 9.1	+22.8
Seeger Ref. (*B*)	25,849	28,248	− 8.5	− 9.3	1,279	1,328	− 3.7	+45.3
FOOD								
Armour & Co.* (*A*)	531,018	569,904	− 6.8	− 7.1	1,535	2,747	−44.1	−79.0
Penn Fruit Co. (*B*)	NA	NA	.....	+13.6	275	238	+15.5	− 7.6
MERCHANDISING								
Diana Stores (*A*)	4,583	4,473	+ 2.5	+15.2	83	180	−53.9	− 4.0
Rice-Stix, Inc. (*B*)	13,090	14,770	−11.4	−21.5	97	182	−46.7	−68.4
TEXTILE								
Consolidated Textile (*B*)	NA	NA	.....	.....	98	554	−82.3	−70.1
J. P. Stevens (*A*)	105,820	91,070	+13.8	+14.0	3,406	7,591	−55.1	−42.8
Wyandotte Worsted (*B*)	NA	NA	.....	.....	34	194	−82.5	−29.7
TV, RADIO								
Avco Mfg. (*B*)	65,329	72,579	−10.0	−24.2	1,655	1,956	−15.4	−47.4
Emerson Radio (*A*)	13,271	11,232	+18.2	.....	196	848	−76.9	−76.8
MISCELLANEOUS								
Celotex Corp. (*A*)	9,282	13,555	−31.5	−18.8	*D*197	684	.....	−66.0
Dresser Industries (*A*)	32,727	28,666	+14.2	+37.9	1,553	1,545	+ 0.5	+69.4
Firestone Tire (*A*)	241,124	237,265	+ 1.6	+ 6.2	9,701	12,809	−24.3	− 9.3
General Shoe (*A*)	25,461	24,477	+ 3.8	+ 7.2	645	596	+ 8.2	−23.4
Hooker Electrochem. (*B*)	NA	NA	.....	.....	836	936	−10.7	−28.5
Int'l. Harvester (*A*)	377,525	351,161	+ 7.5	+ 4.1	14,353	22,208	−35.4	−17.1
Newport Steel (*A*)	13,565	14,994	− 9.5	+ 3.4	344	761	−54.8	−45.5
Royal Typewriter (*A*)	15,784	16,318	− 3.3	− 2.5	659	1,168	−43.6	−36.2

(A) Quarter ended about Apr. 30. (B) Quarter ended about May 31. D—deficit.

Second-Quarter Profits: Blue Preview

It's too early yet to get reports of industrial companies for the quarter ended June 30, but you can get some idea of the way the wind is blowing by looking at the reports of those whose quarters end in April or May.

It's no surprise, of course, to find that second-quarter 1952 earnings of these companies are almost without exception lower than the comparable 1951 quarter.

But suppose you go on to compare the percentage of change between the second quarters of 1952 and 1951 with the percentage of change between the first quarters of both years (table, above). You get a very interesting result. Profits of most companies dropped more in the second quarter—below the comparable quarter last year—than they did in the first quarter of 1952 below the same 1951 quarter. In other words, corporate profits were still on the way down during April and May.

Navy Fire Fighters Face Wind in battling flaming liquid with WaterFOG.

The risk the fog destroyed

Raging winds are a hazard fire fighters hate.

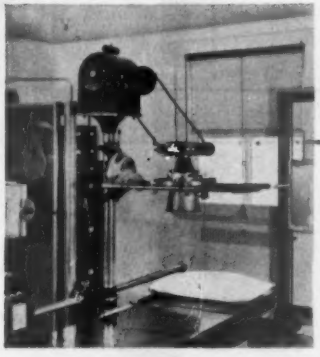
Yet the men above rushed into the wind-swept flames, straight to the source of fire . . . without risk. Specially engineered WaterFOG shielded them from intense heat and fumes, put out the blaze in seconds.

This protective, fire-fighting fog is created by a Rockwood nozzle. The nozzle "explodes" water so that it's finer than spray. A pint of water, for instance, splits into a million, cooling, heat-absorbent parts and thus spreads over a far greater area than ordinarily possible. Temperature rapidly drops below ignition point and the WaterFOG particles turn into steam that smothers fire.

Rockwood WaterFOG Nozzles — easily attached to ordinary fire hose — are also in use in fire departments, industrial plants, chemical plants, mercantile and public buildings, oil refineries. They are but one of many kinds of Rockwood fire-fighting equipment in which Rockwood has engineered water to cut fire losses.

How Rockwood Engineers Water to Cut Fire Losses

Water Is Turned Into FogFOAM in this manifold pit. To 97 parts of water, Rockwood adds 3 parts special Rockwood FOAM liquid, discharges it through special Rockwood heads to make FogFOAM — smothers flames, protects exposed surfaces.



Water Is Tapped Into Vital Spots in St. Louis Hospital, Berlin, New Hampshire by means of specially engineered Rockwood SPRINKLER SYSTEM. *No lives have ever been lost from fire in hospitals completely equipped with sprinklers.*

SEND FOR THIS INFORMATIVE BOOKLET

ROCKWOOD SPRINKLER COMPANY
112 HARLOW STREET
WORCESTER 5, MASS.

Please send me the 12-page, illustrated booklet, "15 Types of Fire Protection," giving actual case histories of different types of fire control.

Name.....
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Company.....
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ROCKWOOD SPRINKLER COMPANY

Engineers Water . . . to Cut Fire Losses

Another Mutual Fund Looks North to Canada

A third mutual fund has been created to invest in Canadian securities. This one, Canada General Fund, Inc., has been organized by a group of Boston investment trust people, who aid in supervising ten investment companies with assets of about $800-million. It has applied for SEC registration of 1,350,000 shares of stock, which will be offered to the public at $10 a share.

Canada General plans to buy mainly common and preferred stocks and convertible bonds, with not more than 35% of its assets in any one industry.

President of the new fund: Henry T. Vance, partner in the Boston firm of Vance, Sanders, a leading distributor of mutual fund shares. Vance is also president of Boston Fund, Inc. Vice-presidents and directors of the new Canadian fund are all connected with Boston investment trusts as officers, trustees, or directors.

Management of the fund will be carried on by Boston Management & Research Co. All of the officers of Canada General Fund are connected with this management firm.

Fiberglas Shenanigans Lead to Inquiry

The National Assn. of Securities Dealers is checking into what happened last February when 630,000 shares of Owens-Corning Fiberglas Corp. were offered to the public for the first time through the customary underwriting syndicate-selling group setup.

Though the offering price to the public was $37.75 a share, interest was so great that the stock was quoted on a when-issued basis as high as $48 on the day of the offering.

• **Scandal**—This demand for Fiberglas stock created what Wall Street admitted was a very unhealthy condition.

Some of the houses participating as underwriters or selling-group members decided to increase their legitimate profits on the deal by holding back some of the stock allotted them for public distribution. They tucked some stock into their own accounts or "sold" blocks to partners, officers, and other insiders. That made less stock available to the public. As eager bidders continued to push prices up, insiders could then gradually unload their blocks on the over-the-counter market at handsome profits.

• **Investigation**—NASD heard rumors of what went on. It had its district committees check into the offering. "Free

We've made it simple...

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riding" had been pretty general, it turned out. The committees discovered that: (1) 66 participating firms kept part or all of their allotments for their own accounts; (2) 185 houses allotted stock to insiders; (3) only 169 firms made a full public offering of their allotments.

At the direction of NASD's board of governors, the district committees are investigating to get more facts.

• **Oft Criticized**—In the past, such practices have come in for pretty sharp criticism from leaders of the securities industry and from the Securities & Exchange Commission.

Back in 1946, SEC for a while was considering drastic steps to end this form of free riding (BW—Apr.27'46, p66). And NASD, which has disciplinary powers over its members, issued a warning. It said then that securities acquired for public distribution by members should not be sold to insiders, in excess of their normal investment practices. Such sales, said NASD, did not "constitute a bona fide public offering consistent with high standards of commercial honor and just and equitable principles of trade."

Why Indirect Ownership Attracts Stockholders

When the Brookings Institution published the results of its trail-blazing survey of stockholders last week (BW—Jul.5'52,p36), it turned up a lot of data never before known about stockholders and stockholdings.

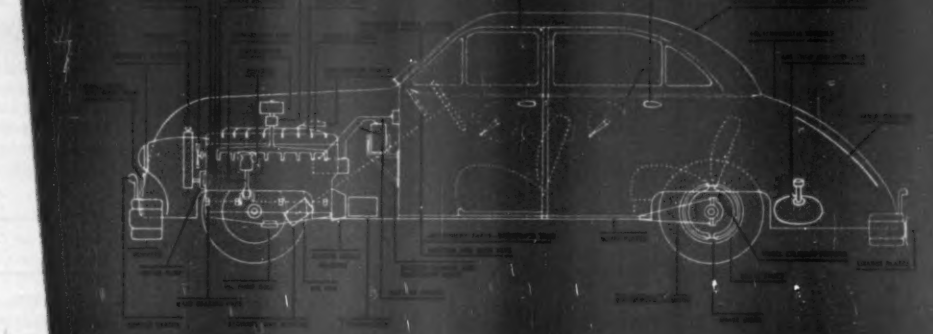
• **Indirect Ownership**—The Brookings researchers had to settle a lot of problems to come up with a reliable count of individual stockholders and the number of shares they own. One was to find a reasonably accurate method of estimating the number of individual stockholders who had their shares registered in the names of bank "nominees" and brokers or security dealers. Then they had to estimate how many shares were held in this indirect fashion.

The Brookings survey finally concluded that about 2.2% of individual stockholders, with about 20% of all the shares owned by individuals, had their stock registered under other names.

• **Reasons**—Why do some stockholders do this? For one thing, when stock is held in the name of someone who is close to a securities market, it is much more easily transferred. For example, it can be sold by the owner when he is out of the country, without his endorsement. Various other formalities and expenses are avoided.

Investors often choose to have their stock held by a bank nominee when the bank is acting as a custodian for their securities. The nominee is not the bank

ALUMINUM APPLICATIONS IN AUTOMOBILES



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itself, but an individual bank employee or "partnership" of employees, named by the bank because they handle the securities involved. On the other hand, stockholders who are active traders often leave their stock in the name of their broker or dealer.

• **Narrowed Down**—Individuals aren't the only ones who hold stock under another name. Trustees of various kinds and institutions use the same device. Since it was impracticable to winnow out these various types for all the 3,000-odd companies that supplied data for the survey, the Brookings survey concentrated on 20 active stocks.

The census takers found out the percentage breakdown by types of owners, and the number of shares held by each type. Then they were able to make an adjustment in the stockholdings of record reported by all 3,000 corporations to get an estimate of the number of actual individual owners and of their holdings.

FINANCE BRIEFS

Meridian, Miss., put over a $1¾-million general-obligation bond issue to finance an industrial plant for a clay pipe manufacturer—despite lack of interest by metropolitan investment bankers. A concern in nearby Jackson underwrote the offering at a net interest cost of 2.41%. Textron, Inc., which was to have rented a larger plant under a similar plan, has now called it off because of Meridian's failure to float a $6.5-million issue.

•

$50-billion in force: That's how much insurance Metropolitan Life Insurance Co., biggest life underwriter, has on record for 33½-million policyholders. This is double what the company had in force 11 years ago.

•

Stock trading on the New York Stock Exchange was slower in the first six months of this year than in any such period since the present bull market began. Volume was 172-million shares, down 30% from last year. June volume was 25.5-million shares, down slightly from last year.

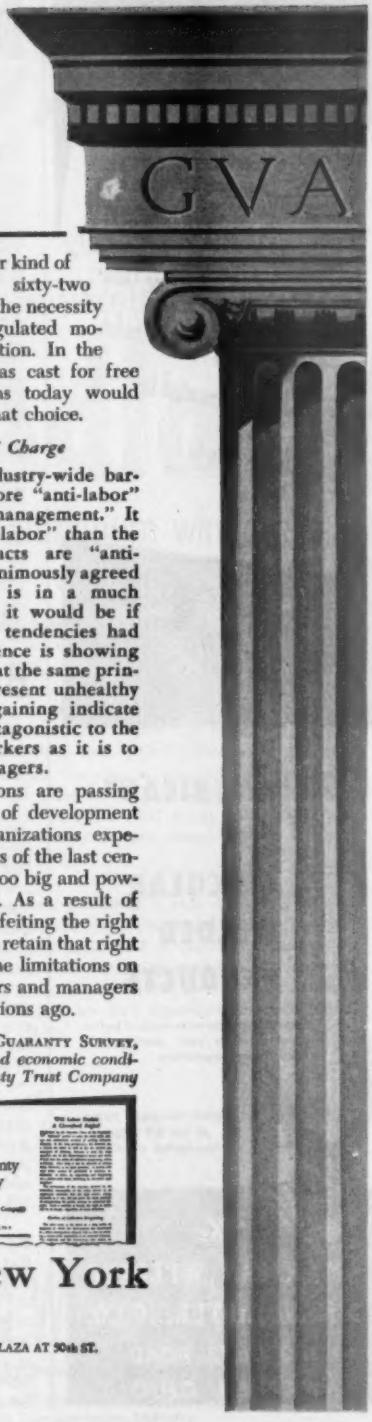
•

Canada has just ratified the new treaty covering across-the-border security frauds. Canadian stock salesmen can now be extradited for trial under U.S. securities laws.

•

Stockholders committee of Colonial Airlines wants the carrier to accept a stock merger offer from Eastern Airlines. The same committee led a successful fight last spring to reject a stock merger proposal from National Airlines (BW—May3'52,p38).

Will Labor Forfeit A Cherished Right?



THE steel crisis is the latest in a long series of instances in which the Government has intervened in a labor-management dispute with a view to averting a nation-wide suspension in an essential industry. The railroads and the bituminous coal mines, as well as the steel mills, have felt the heavy hand of Federal seizure. Taft-Hartley injunctions and Presidential "fact-finding" boards are among the other devices used to prevent strikes that were deemed socially intolerable.

The virtual certainty of governmental intervention in such disputes in the event of a breakdown of negotiations has tended to undermine the collective bargaining system. If either or both of the bargaining parties believe that they are likely to receive favorable treatment from a governmental board, it is to their immediate interest to refuse to settle and thereby throw the dispute into the lap of such a board. Collective bargaining under such conditions tends to become a formality preliminary to outside adjudication of the issue.

Loss of the Right to Strike

Labor seems to be in danger of losing its power to bargain collectively in basic industries because it is yielding its right to strike, which is the heart of collective bargaining from labor's standpoint. Labor is losing the right to strike because industry-wide organization makes the strike a public menace. Traditionally, a strike is a contest between labor and management, with the people and their Government remaining neutral. A nation-wide strike in an essential industry is a different thing. Such a strike endangers public health and safety, and forces the people, acting through their Government, to intervene in their own defense.

Experience is making it increasingly clear that labor monopoly is as inimical to free enterprise as any other kind of monopoly. Again after sixty-two years the nation is facing the necessity of choosing between regulated monopoly and free competition. In the Sherman act the vote was cast for free competition. Few citizens today would question the wisdom of that choice.

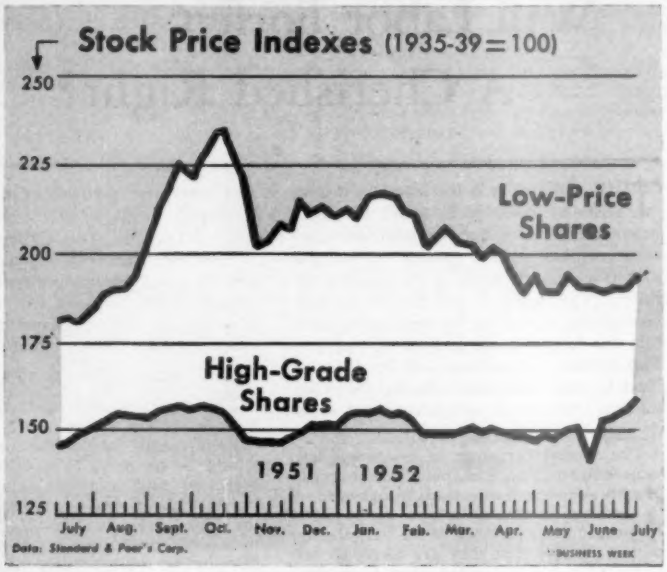
The "Anti-Labor" Charge

The elimination of industry-wide bargaining would be no more "anti-labor" than it would be "anti-management." It would be no more "anti-labor" than the Sherman and Clayton acts are "anti-industry." It is almost unanimously agreed that American business is in a much healthier condition than it would be if developing monopolistic tendencies had not been curbed. Experience is showing more and more plainly that the same principle applies to labor. Present unhealthy trends in collective bargaining indicate that monopolism is as antagonistic to the long-run interests of workers as it is to those of owners and managers.

Some labor organizations are passing through the same phase of development that some industrial organizations experienced in the closing years of the last century. They are becoming too big and powerful for their own good. As a result of their bigness, they are forfeiting the right to strike and, it seems, can retain that right only by accepting the same limitations on size and power that owners and managers had to accept two generations ago.

From the July issue of THE GUARANTY SURVEY, *monthly review of business and economic conditions published by the Guaranty Trust Company of New York. The complete issue is available on request to our Main Office, 140 Broadway, New York 15, N. Y.*

THE MARKETS



Bulls, But No Bellowing

Wall Street has a very strange bull market indeed this summer (page 32). Industrial shares, as measured by Standard & Poor's daily index, are at an all-time high. Last week S&P's weekly index of high-grade common stocks made a new all-time high (chart). But there is practically none of the speculative interest in the industrial shares which has accompanied previous bull market peaks.

Look at S&P's index for the low-priced commons. Though this has gone up a little in the last couple of weeks, it has been on the downgrade almost ever since it reached its high point for the current bull market back in October of last year.

• **"Quicker" Gains**—Ordinarily, speculators love the low-price industrial shares. Here's their argument: "A one-point gain in a $10 stock means a paper profit of 10%, while the same advance in a $100 stock means only a 1% paper profit."

There has been some speculative buying during the last six months or so. But practically all of it has been in the Canadian oils and in the "oily rails"—rail stocks with oil possibilities. None of these issues appear on S&P's index. So you can't take the low-price index as a comprehensive indicator of speculative strength. But it shows what little interest traders have in the profit possibilities of marginal industrial companies.

• **Marginal**—The low-priced commons, by and large, are shares in concerns which prosper mightily on the upward surge of a business cycle, when strong demand for goods keeps every company working at capacity levels. Under such conditions, profits of marginal companies increase fast.

But now the business cycle is the subject of some concern. Higher costs—including higher taxes—mean narrower profit margins, even though volume of sales may be keeping up pretty well (page 118). Under these circumstances, profits of the marginal companies drop faster, percentage-wise, than the profits of stronger, better-established outfits.

That's one good reason why the low-priced commons are dropping. But it doesn't explain why, at the same time, the index of high-grade commons has reached a new high.

• **Defensive**—You can find the answer to that by looking at the stocks which make up Standard & Poor's high-grade index. Some are "defensive" issues, with relatively stable earnings, the type that is popular with investors who expect a downswing in the business cycle. Others are investment-grade growth stocks.

However, the market action of low-price stocks doesn't by any means de-

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pend entirely on earnings prospects. If it looks as if stock prices in general are going to continue to advance, the low-price shares are apt to move upward faster than the general market.

That's because people buy them not to hold, but with the expectation of selling later to somebody else at a higher price. If something happens to upset the general optimism, these speculators get out quickly. That drives the low-price shares down faster than the general market, no matter what their earnings prospects may be.

So that's another key to the paradox of this summer rally. Though prices are at new highs, there's little general confidence. You can see that by the way investors are so carefully keeping out of the market. Trading volume continues to be very low.

Two big questions have to be settled before the low-priced shares can attract much buying interest: (1) the steel strike, and (2) what candidates are going to run for the presidency. After that, perhaps, they will show signs of life.

Private Financing Hits the Top

Last year corporations sold more new securities direct to institutional investors than ever before. The record-breaking crop of private placements yielded almost $5.1-billion. Some 60% was grabbed up by life insurance companies and other institutions in Greater New York.

These are some of the findings in the 1952 Yearbook of Private Placements published last week by Chicago's E. V. Hale & Co., private placement specialist. Its fourth yearbook is based mainly on portfolios of over 200 life insurance companies. The exhaustive volume lists 3,326 transactions.

• **Heavy Spenders**—Last year's Mr. Big was New York's Metropolitan Life Insurance Co.—world's largest nongovernmental financial enterprise. In 146 deals, Met bought well over $1.2-billion of new securities.

Runnerup was the nation's second largest life company, Newark's Prudential Insurance Co. of America. It acquired $792-million of new securities in 102 separate pieces of private financing.

The rest of the Big Five followed suit. Equitable Life Assurance Society of America negotiated 75 deals worth $484-million. New York Life Insurance Co. absorbed $270-million in 51 deals. And Mutual Life Insurance Co. of New York closed 109 transactions involving $212-million of new issues.

• **Loans**—Stock issues played the minor league in last year's direct financing deals. Of the $5,085,238,000 of new capital raised through private placement, $5,014,425,000 came from sale of debt obligations—such as bonds, debentures, notes, mortgages. Unsecured loans accounted for 73% of that.

About 37% of the transactions involved loans with maturities of 10 to 14 years. Not dollarwise, however. Loans of 20 years or more accounted for 59% of the total dollar volume.

Just like everybody else last year, corporations that borrowed via direct placement found interest rates higher than for a long time. Earlier, buyers had been willing to agree to less-than-3% rates on a great number of negotiated deals. Dollarwise, only 3% of last year's borrowings fell in that class. About 81% stayed within 3% to 4%, the remaining 16% went even higher.

• **Borrowers**—Biggest borrowers last year were industrial corporations. Their negotiated deals totaled almost $3.6-billion, or 70% of the private financing total. Transactions with public utilities added up to $833-million (16%); with railroads, $177-million (about 3%). Personal and consumer loan companies, too, were busy placing securities privately. They sold $442,488,000 worth of preferred stock and debt obligations direct to institutional lenders—9% of all such deals.

Over half of last year's private financing—53%—was touched off by expansion and plant improvement. Working capital needs accounted for 19%, refunding of outstanding securities for 14%.

• **Not Chicken Feed**—Last year's transactions included some sizable loans. Westinghouse Electric borrowed the most—$125-million—through the sale of 30-year 3¼% debentures. These deals followed, down the line: $100-million advanced Goodyear Tire & Rubber Co. on 20-year 3½% notes; a $78.6-million deal negotiated by Texas Illinois Natural Gas Pipeline on 3¼% 19-year first mortgage bonds; a $78-million borrowing of Texas Eastern Transmission on 19-year 3¼% mortgage bonds; and sale of $75-million worth of 25-year, first mortgage 3¼s by Kaiser Aluminum & Chemical Co.

• **Fast Tempo**—Will 1952's private security sales equal last year's volume? It is still too early to tell. But so far this year the tempo has been running high. The last week or so is a good example: Just 10 companies closed private-placement deals worth $155-million. These included sales of $75-million of 30-year 3¼% notes by Allis Chalmers Mfg. Co.; $25-million of 25-year 3¼% notes by Singer Mfg. Co.; and $22-million of 20-year 4¼% general mortgage bonds by Atlantic Coast Line R.R.

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Its newest plant will bring to Outstate Michigan the production of Alnico permanent magnets, which are widely used in radar, in holding devices, and in radio and television receivers.

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● The new Wage Stabilization Board has an unhappy heritage and some big problems.

● Congress has taken away its power to handle labor disputes like the steel case.

● The question of productivity-type wage increases must be answered.

● And there's always John L. Lewis to cloud the labor sky. It adds up to . . .

Trouble for the New Wage Board

The first Wage Stabilization Board of the Korean era was torpedoed early in 1951 by a labor boycott that developed from the unions' fight with Charles E. Wilson over labor representation in the defense setup.

The second WSB was torpedoed by Congress last week as a direct result of its inability to settle the steel dispute.

The third WSB comes into being on July 29—its lineage uninspired, its activities circumscribed in advance, its life-span uncertain, and its problems immense.

• **Heritage**—WSB I left WSB II the job of working out a cost-of-living wage formula and handling the budding controversy in steel. WSB II leaves WSB III a case load of more than 12,000 wage petitions, a deficit in prestige, an anemic budget, a public indifference on wage control, and a red-hot policy problem—what to do about so-called productivity wage increases. And, as if that were not enough to bequeath a feeble infant, sometime within the next few months John L. Lewis will stop playing Sphinx and the nation will start worrying about a coal strike.

To avoid a hiatus in existing policy, all existing wage regulations will presumably be reissued by the Economic Stabilization Administrator. He has been designated under the amended Defense Production Act—which kills WSB II—as promulgator of all general policies and general regulations relating to wage and salary stabilization.

The old board hopes to clean up its disputes docket, for that is something it cannot hand down. Nor can the new board handle any new disputes, not at least in the sense that Board II acted in disputes.

• **Still in Three Parts**—Elimination of the disputes function and the ban on new policies or regulations until Board III takes over are the main results of the Congressional battle over WSB.

The tripartite system, with numerical equality on each of the three sides, came out of the battle unscathed. Rep. W. H. Lucas of Texas, who would have put the public members in numerical control of the board, lost that as well as his fight to give the independent unions a seat at the labor side of the table.

Some Congressional critics of the WSB no doubt hoped to get rid of most of the public members by the device of killing one board and establishing a new one. But these members had planned to leave anyway by the end of summer. Congress retained some check on appointments by making all of them subject to Senate confirmation.

• **Power or No**—Some legal analysts around the board raise the question whether Congress really intended to divest the board of all disputes functions. They point to this passage in the law: "Except as provided in Clause (B) of this paragraph, the board shall have no jurisdiction with respect to any labor dispute or with respect to any issue involved therein."

The exception, they say, must mean that the board has some jurisdiction in disputes. The pertinent part of Clause (B) says that the board shall, upon the request of any person substantially affected by the wage regulations and policies, or any federal agency, "advise as to the interpretation, or the application to particular circumstances, of policies and regulations. . . ."

The draftsmanship could stand some improvement, but most board members take the practical view that Congress said plainly enough the board may only interpret the regulations in disputes, on request. That's quite different from taking custody of a dispute and making recommendations that are not explicitly grounded on the regulations, as the board did in the steel case.

• **Decontrol**—Congress exempted employers of eight or fewer persons from wage and salary controls. This is a policy the board had virtually made up its mind to issue but hadn't quite managed to get to.

Also decontrolled are wages paid to agricultural labor, bowling alley employees, and all employees paid $1 an hour or less (page 133).

• **Interim**—The ban on new regulations until July 30 turned up in the joint conference of Senate and House committees. It was the supreme vote of no confidence in the old board.

The restriction was aimed particularly at blocking a productivity wage policy which the old board was getting ready (BW—Jun.21'52,p151). Two days earlier, Rep. Ralph W. Gwinn, New York Republican member of the Labor Committee, introduced a resolution to block this pronouncement.

Technically, the stabilization administrator could issue a productivity wage policy even before the old WSB regime expired, but that would violate the spirit of the act.

• **Productivity Bugbear**—Productivity undoubtedly will be the No. 1 item on the new board's agenda. Even if none of the present public members are carried over, the work they did in the productivity field surely will have some influence with the new board.

Businessmen can be reasonably certain that such a policy, if it is issued, will avoid the word "productivity" and will avoid any phrase that uses the word "annual." The old board found that many employers were uncomfortable about the label "productivity" lest it bind them to a concept or principle for years ahead when they don't know what their circumstances will be.

For similar reasons, the WSB intended to avoid putting the "annual improvement factor" label on any hike in wage ceilings. A year hence there may be no controls, or there may be total war and tighter controls. Language with implications for such an uncertain future would be unwise, the board felt.

• **Pressure Rising**—The public members did feel, however, that it's hard to hold wage earners generally to a cost-of-living basis, while making exceptions for those with prefreeze contracts that called for improvements in real wages.

The pressure to break through the cost-of-living ceiling has been getting more intense. Some of this pressure was absorbed by the General Electric, steel, and oil cases.

A General Electric increase was allowed on the basis of a historical relationship with the auto industry. Five cents of the oil workers' increase admittedly pierced the regulations, and the steel recommendations were issued

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without reliance on the regulations. In none of these cases did the board use the word "productivity" to justify an increase.

• **Auto Influence**—Thus it appears that, even if there is no productivity wage policy, the influence of the annual rise in automobile wages is going to spill over into other fields.

Demands for the correction of inequities will have to be met on a case-by-case basis. It was the view of the industry members of the WSB that if there was going to be any productivity wage policy at all—and they preferred none—that was the approach that should be used.

• **Alternatives**—Two other possible approaches were under study.

One would be a broad regulation to be administered on a case-by-case basis. This would incorporate the "quid pro quo" concept. The board would simply invite petitions for wage increases above the cost of living because of measures which the parties adopted, or planned to adopt, to improve efficiency.

This approach would not mention a specific figure. A long-term contract, such as the General Motors type, would not be required, though it might be persuasive.

The other approach would be a self-administering regulation that would mention a figure, possibly as an amendment to Regulations 6 and 8, which are the basic, general-increase measures of the board.

This would raise some problems, because certain plants have been allowed to go above the cost of living regulations in order to bring them into line with comparable groups.

In such cases, the board probably would want to have a look at other increases so as to avoid area distortions that had just been corrected by an increase.

Musicians Soft-Pedal Bargaining Measures

Union members should:

• Go in for shrewder collective bargaining, and less tough stuff.

• If necessary, take smaller contract gains in order to avoid costly strikes.

• Stick to contracts once they are signed, even if it means ignoring pleas by other unions for supporting "sympathy" strikes.

This advice, from James C. Petrillo, president of the American Federation of Musicians (AFL), may sound strange, coming from a union leader. There's a reason for it, Petrillo explained. The union must move carefully at a time when, under the Taft-

Hartley law, "courts are vicious against unions," Petrillo said.

The truth is that AFM is running into rough going these days. Employment of musicians is now comparatively small—according to Petrillo, the union now has "only 5% adequately employed, and 95% unemployed." That means lean times for local union funds. The international is having to tighten its belt. And, he warned, the outlook is that "things are going to be bad."

Despite this warning, Petrillo recently opposed repeal of union rules which, some locals said, are holding down employment of musicians in the television-film industry. The proposal was defeated at AFM's convention in Santa Barbara, Calif., in June.

DPA Loosens Pay Strings

Amendments to the Defense Production Act have made some broad changes in the groups covered by wage and salary controls. The new law (page 158) exempts millions of workers formerly subject to pay curbs.

Generally, the changes affect employees of small businesses, professional engineers, architects, public accountants, farm workers, and all who earn less than $1 an hour. But there are strings in the exemptions that every employer should consider.

• **Small Businesses**—Beginning July 30, wage and salary controls will not apply to 5.2-million workers in 2-million businesses that employ eight or fewer persons. This is the hitch: All workers—including branch employees—must be counted. If there are more than eight all told, the controls stay on.

As in World War II, exceptions may be made in lifting controls from small businesses. Under the DPA amendments, President Truman can order controls continued where he thinks exemption might be unstabilizing.

The old National War Labor Board had the same authority in World War II; it made 68 exceptions to the decontrol of wages for small businesses. It kept curbs, for instance, on all small establishments in Alaska and Hawaii; on all tool-and-die and construction workers; and in a number of industries in particular labor-short areas or states.

Before July 30, Truman will probably announce exceptions to wage decontrol in the tool-and-die industry (to bar pirating of labor) and perhaps in a few other critical defense industries.

• **Professional Engineers**—Changes in DPA also lift controls from the pay of some 400,000 professional engineers employed in a "professional capacity"—that is, doing engineering work of a professional character as defined in the wage-hour law exemption for professional employees.

This bars from salary decontrol all engineers employed as executives, administrators, or in sales work. The lid also stays on physicists, chemists, mathematicians, and others in scientific fields—even though their work may be closely related to professional engineering.

Technicians, no matter how highly skilled, are excluded from decontrol, too, as are advisers on sales promotion, business methods and operations; and persons designated as "engineers"—such as stationary, maintenance, sales, management or administrative engineers—who do not meet the usual tests of a professional engineer. The key requirement is an engineering degree or a license to practice engineering.

• **Architects**—The new provisions exempt an architect's compensation where he is employed in a professional capacity by an architect or firm of architects.

• **Public Accountants**—A similar provision covers public accountants. It provides that a certified public accountant is now exempt from wage and salary controls if he is employed by another C.P.A. or by a C.P.A. concern.

• **Farm Labor**—As revised, DPA specifies that wages of agricultural labor, too, are exempt from controls.

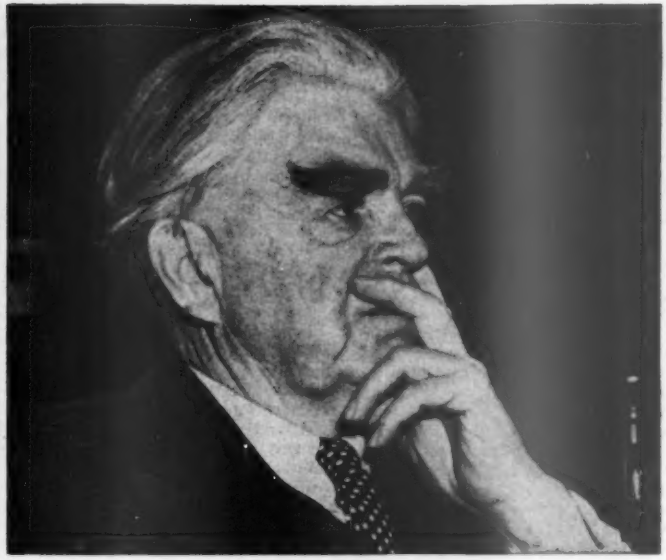
• **Under-$1 Wages**—In amendments to DPA, Congress forbids any stabilization order or regulation which would bar the payment of "hourly wages (and presumably salaries, also) at a rate of $1 an hour."

In effect, this means that wage curbs do not apply to under-$1 hourly pay. Employers can raise rates to $1 an hour without worrying about making the raise fit into stabilization patterns.

Unions didn't get just what they asked for—to have rates under $1.25 an hour called subnormal for stabilization purposes. But they see this DPA amendment as a significant victory. Labor considers it an opening wedge for new efforts to boost the Fair Labor Standards (Wage-Hour) Act minimum hourly wage to $1 instead of the 75¢ minimum in effect since January, 1950.

• **No Inequities**—Both the Wage Stabilization Board and the Salary Stabilization Board have warned that employers cannot use uncontrolled pay boosts—such as an increase to $1 an hour—as a lever for jacking up other controlled wage rates.

Both boards say they will not accept "inequity" arguments that raises given decontrolled groups have upset existing differentials.



Lewis Got a Safety Bill, But . . .

. . . A Mine Disaster Can Still Happen

Congress has passed a law that puts the federal government into mine safety—but not very far. Critics say the measure will do little to prevent such mine disasters as that at West Frankfort, Ill., last December (picture). Certainly, it falls far short of what John L. Lewis wanted.

Up to now, mine safety has been almost entirely in the hands of the states. Frequently, politics has influenced decisions. Lewis demanded an end to that. He called for a federal law that would give Bureau of Mines inspectors authority to close any mine they considered dangerous.

• **Senate Action**—After months of hearings, the Senate passed a bill—over strong protests from states' rights advocates—that would give federal inspectors much of the power Lewis urged for them.

The House balked. Last week, in the rush toward adjournment, it passed a much milder bill—roundly criticized as inadequate by Lewis earlier in the session.

This version, which exempts strip

mines and those employing 14 or fewer miners, limits federal inspectors to closing only mines where there is an immediate threat of loss of life through fire, explosion, flood, or cave-in.

It also provides that federal inspectors can order potentially dangerous conditions cleared up—but lacks a grant of power to enforce a prompt abatement of potential hazards.

There wasn't time to send the tough Senate bill and the mild House one into conference. But when Lewis grumbled that a weak law would be better than none at all, the Senate concurred by voice with the House bill—sending it to the President.

• **Forebodings**—Meanwhile, proponents of a strong safety law grimly wondered: Will it take another West Frankfort disaster to get any teeth in the bill?

Coalmen, always worried when Lewis sounds docile, had another thought: Will Lewis, as is so often his wont when balked in Washington, carry the safety issue into collective bargaining—to press there for safety rules as strong as those the Senate would set?

Shutdown Isn't a Lockout, If...

. . . the union is pulling "instalment-plan" strikes. But NLRB says employer is violating Taft-Hartley if he closes plant to break a bargaining deadlock.

Last week employers got a new set of hints for solving this legal poser: When can a company shut down its plant during labor negotiations without violating the Taft-Hartley law ban on lockouts?

These new guides emerged from an arbitration award and a National Labor Relations Board decision:

• An employer bothered by "instalment-plan" strikes—off-and-on walkouts for union meetings and other pretexts—may shut down without its being a lockout.

• An employer is always justified in closing his plant if it becomes necessary due to genuine economic or other reasons not connected with the union activities of his employees. He must, however, be able to prove the soundness of his reasons.

• An employer may not close his plant to force employees to accept his terms in collective bargaining, or to break a deadlock.

It simmers down to this: If the shutdown is purely a defensive weapon, it isn't a lockout; if it is aggressive, intended to coerce, it is a lockout.

• **Arbitration Award**—The arbitration involved General Cable Corp. and the United Electrical Workers. An arbitrator, James J. Healy of Boston, upheld General Cable plant closings in Rome, N. Y., and in Emeryville and Los Angeles, Calif., after what the company called "instalment-plan" strikes. All the arguments in the case hinged on this one question: Were the shutdowns a defensive measure against actual or potential economic losses, or were they an economic weapon used to gain concessions from the employees? Healy decided that the closings were clearly defensive.

Company and union reached an impasse a year ago in contract bargaining. To bring increased pressure for a settlement to bear on General Cable, UE tried a strategy of harassment. Workers quit early on some shifts, started late on others, and otherwise interrupted normal production to "discuss" company contract offers. They gave no notice in advance to the company, and did not ask permission to leave early or report late.

• **Shut Down**—On July 11, 1951, General Cable closed its plants, announced they would not be reopened until "we have received positive assurances from the union that all the employees will completely meet their contractual obligations to work throughout their scheduled shifts without any interference with production."

The union refused to have members return under these conditions. It argued that the company was making demands for "concessions over and above the contract" and that it had locked out employees. The case went to arbitration. The union held that workers had "a contractual right" to attend union meetings, whenever set: General Cable contended that the absences constituted illegal strike action.

The arbitrator agreed with the company, that in a real sense "the union and its members were attempting to strike and to work at the same time." He ruled, against UE, that the union "was not privileged . . . to engage in an unpredictable sniping expedition for the purpose of minimizing the financial hardship to . . . 'striking' employees and compounding the financial hardship to the company."

• **NLRB's Decision**—The National Labor Relations Board ruling on lockouts came in a case involving the Distillery Workers' Union (AFL) and 35 wholesale liquor companies in Chicago.

Companies and union deadlocked in contract bargaining in 1949. To put on pressure for a settlement, the union

called 60 salesmen of one employer off jobs. The other employers then discharged their 700 union salesmen, and the union filed a lockout charge with NLRB.

In an earlier ruling in the same case, NLRB had held that the liquor companies had locked out employees "to destroy, or seriously weaken, the union." Companies appealed to the U. S. Court of Appeals at Chicago, which asked NLRB to consider several points.

One was whether a "temporary" lockout—to break a bargaining deadlock, not permanently to damage the union—is illegal under T-H. NLRB's new ruling holds that it is.

NLRB says that although Congress, when it drafted T-H, expressly gave workers the right to strike, it did not write into the act "any similar express saving of the right to lock out employees."

LABOR BRIEFS

A higher fee may be charged by a union for reinstating a former member than for taking in a new one, the National Labor Relations Board ruled (3-2) last week. It tossed out a discrimination charge brought against the International Assn. of Machinists (AFL) by a former member who had to pay $60, twice the usual initiation fee, for reinstatement.

•

Women fill one of every five Alabama manufacturing jobs, the State Dept. of Industrial Relations reports. Most are in textile, apparels, food processing.

•

It's not a strike, says NLRB, if a union refuses to provide employees asked for by a contractor. The board says a strike means "quitting work" or "a stoppage of work"—and men "cannot quit before they are hired [or] stop work before they start." The case arose when an AFL craft union refused to send glaziers to a contractor who was using materials banned by union rules.

•

Dissension, already bothering other CIO unions (BW—Jun.14'52,p149), bobbed up in the Communications Workers of America last week. Atlanta toll test board employees of Southern Bell, dissatisfied with wage terms negotiated by CWA, asked for an NLRB election to take them out of CIO.

•

In Hawaii, the leftist International Longshoremen's & Warehousemen's Union is asking a 19¢ hourly raise and elimination of a wage-sugar price escalator in contract bargaining covering 19,000 sugar workers. Employers say they are "very adverse" to both.

Office Noise . . .

. . . radiating from telephones . . .

. . . office machines . . .

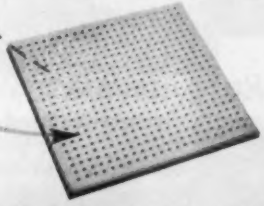
. . . and other sources . . .

. . . builds up . . .

. . . causing fatigue . . .

. . . and reducing efficiency.

Stop distracting noise with a ceiling of . . .



Noise that bounces off hard walls and ceilings is multiplied, causing tension and costly mistakes. Ceilings of low-cost Armstrong's Cushiontone® soak up noise and bring restful quiet. Your Armstrong Acoustical Contractor will give you full details and an estimate without obligation. For free booklet, "How to Select an Acoustical Material," write Armstrong Cork Company, 5207 Walnut St., Lancaster, Pa.

ARMSTRONG'S CUSHIONTONE

Southeast Asia: The Communist Tide

After two years of war and a year of truce talks, Korea looks like a fruitless stalemate to most Americans, and a costly one at that. The U. S. has had to drop its original goal of Korean unification. To hold just South Korea, we may have to keep large forces there indefinitely.

But a look at the Korean war from the perspective of Southeast Asia shows that Korea has stymied the Communists, too. Moscow and Peiping planned the attack of June, 1950, as a preliminary step to further conquests to the south. Yet today Southeast Asia is, on balance, stronger economically and more secure militarily than it was in 1950.

• **Tied Down**—For one thing, Red China has so much of its military strength tied up in Korea that Peiping can't afford large-scale military operations to the south. True, the war goes on in Indo-China, and Communist guerrillas are still harrying Burma and Malaya. But the long U. S. fight in Korea has given Southeast Asia a sort of breathing spell during which the Communist tide could be halted, even rolled back a little in spots.

Gains by the democracies haven't been limited to the military front. They have made progress, especially during the last year, on the political and economic fronts as well.

One of Washington's worst headaches in 1951 was to keep Prime Minister Nehru of India from undermining our policy of support to the French in Indo-China. To Nehru, French colonialism apparently looked worse than Ho Chi-Minh's communism. Now a sort of gentlemen's agreement has been reached between Washington and New Delhi. On the one hand, the U. S. has dropped any idea of drawing India directly into our anti-Communist strategy. On the other, Nehru has had to accept our Indo-China policy.

• **Liaison**—Some gains have been made also in inter-Allied cooperation. Although collaboration is still far from perfect, Allied liaison staffs are at work today on both military and economic problems. In case of emergency, the present set-up could be quickly turned into an Allied high command for Southeast Asia.

At the same time, Mao's Red regime in China has been losing ground with the 10-million Chinese who live in Southeast Asia and dominate its commercial life. Many of these Chinese have been soured on Mao by his ruthless "land reform" in mainland China.

Ebbs Slightly

and the extortion of large sums from the Chinese community abroad.

• **Economic Gains**—The Korean war has also brought some economic benefits to Southeast Asia. The boom in raw materials such as rubber, tin, and copper which lasted until mid-1951, helped speed economic reconstruction. The area has been squeezed by the price slump of the past year, but if present prices hold up, there's a good chance of economic stability.

The U. S. has been pumping large amounts of economic and military aid into Southeast Asia. We've been spending at the rate of $300-million a year in Formosa. Indo-China got $250-million in the year ended last month; that figure may be boosted by 50% this fiscal year. In addition, the U. S. has made sizable dollar grants and loans to Indonesia, Burma, Thailand, and the Philippines.

British economic aid—via the six-year Colombo development plan—has also helped the area. Recently Japan has come into the picture with an industrial development program which may involve an investment of $100-million.

I. Indo-China

The fate of Southeast Asia still hangs pretty much on what happens in Indo-China. The Communist threat won't be removed until Ho Chi-Minh's forces have been thoroughly whipped. That won't be achieved without a long-drawn-out fight.

Fortunately, the French have gained some ground in the last year. By following a strategy of wearing down the foe's troops rather than launching an offensive, they have managed to cripple the Viet Minh army pretty badly.

It is, however, doubtful that the French command can achieve its goal: to train enough native divisions for a large-scale offensive early next year.

Politically, the U. S. still is somewhat compromised in Indo-China by the character of the local French regime which is strongly tinged with the old colonial mentality. But Washington has no alternative, for two reasons:

• France is an indispensable ally in Western Europe.

• The native government, led by Bao Dai, has failed to supply real leadership of the anti-Communist forces.

The French have had a good political break, in the past year with Ho Chi-Minh's regime becoming increasingly an open Communist dictatorship. That

has lost Ho much of his nationalist support.

II. Burma

Burma would be an easy prey for Chinese armies. The Thakin Nu government has an army of 50,000 at most. Still, Burma is better protected today against Chinese intervention than it was two years ago. That's largely due to the shift of India's border policy following the Chinese occupation of Tibet. Since that occupation, Nehru has made it perfectly clear that he would regard an invasion of Burma as a direct threat to India.

The internal Communist threat isn't as great as it was, either. The government has captured the rebel capital in northern Burma and dispersed about half of the "Red Flag" guerrillas. What's more, the Communists have lost their dominant influence in the labor unions; these are now under control of the Socialist Government.

III. Malaya

Malaya is still beset by a small but determined guerrilla army, which is led by Chin Peng and backed by one of the best organized Communist parties in the world. The Communist target in Malaya is not control of the government, but destruction of the rubber crop, Britain's biggest single dollar earner.

Sir Gerald Templer, the new High Commissioner, is meeting the Reds on two fronts—military and social. And he seems to be relying more on a large-scale social program than on his troops. New settlements are being provided for 450,000 natives who live on the jungle borders. Trade unions are being organized on a democratic pattern. A new school program is under way.

IV. Thailand

By comparison with the rest of Southeast Asia, Thailand has been an island of political and economic stability. Communist infiltration has never made any real headway. That has given the country a chance to concentrate on boosting its output of rice and getting ahead with industrial development.

Thailand already is the largest rice exporter in the world. Its exports have been running at about 1.5-million tons a year. Now plans are on foot for irrigation projects that may double this figure.

V. Indonesia

Indonesia is the one spot where the West has lost some ground during the last year. This new republic seems bent on a policy of isolation and of indifference to the threat of communism. President Sokarno recently said privately: "If Asia goes Communist, so do I."

It's pretty clear now that the Indonesians blundered when they carried out the "Second Revolution." This destroyed the original federal structure of the country, but failed to replace it with an efficient centralized regime. Instead there's a huge bureaucracy and administrative chaos. The Government cannot even maintain law and order, especially in rural areas.

Production still is below the pre-war level. Without an influx of new capital it is hard to see how it can be raised. But the government does not encourage domestic investors, nor does it attract foreign capital.

The biggest threat to Indonesia, though, is a further slump in the price of rubber. This would bring heavy unemployment among rubber workers and a chance for the Communists to go to town. Right now the republic's 150,000-man army would have no trouble in handling a Communist uprising. But it might be a different matter if Indonesia should be hit by a real economic crisis.

VI. The Philippines

The guerrilla problem in the Philippines seems about licked. That's largely due to the efforts of Defense Minister Ramon Magsaysay. His recipe, like Templer's in Malaya, is force plus reform and rehabilitation. Magsaysay has succeeded in separating most of the Communist-led Huk bands from the civil population. And he has managed to get thousands of civilians to fight as volunteers against the Reds.

There's been an improvement in the economic position of the Philippines also. Production has gone up in many fields, including rice and iron ore. The country no longer is threatened with a serious crisis in its balance of payments with the U.S.

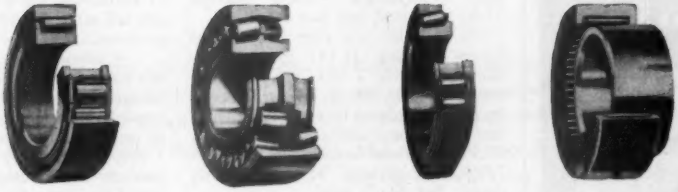
VII. Formosa

Thanks to U.S. aid, the economic and military outlook on Formosa has improved steadily over the past two years. Economic aid alone amounts to $11 per person, or more than 30% of the average per capita income in India.

As a result, the Formosan economy is flourishing. Rice production has reached record levels, enough to provide sizable exports. Agrarian reform has cut down the social discontent which existed a few years ago.

Chiang Kai-shek's army is steadily gaining strength. Today Formosa would be no easy prey for an invading Red army, as it would have been two years ago.

designed for harmony...



Torrington engineers have a thorough knowledge of the friction problems encountered in virtually every type of mechanical equipment. And they have had many years of experience with *all* types of anti-friction bearings. They are able to give sound, unbiased recommendations for the bearings best suited for the job at hand. Result: a harmonious blending of anti-friction bearing types with the products in which they are used.

Torrington engineers will be glad to help you—as they have many others—to select the bearings which will assure your products smooth, dependable operation.

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PRICE CUTS on all models have been instituted by Ford of Britain. Here, lined up outside New York showroom, are (left to right) the Zephyr, Prefect, and Consul.

British Fight for Auto Sales

Exporters, hurt by restrictions on customers, are trying price cuts, incentives, new sales techniques to maintain vital sales of cars and trucks. The prospects are fair.

Last year, Britain's all-important automotive sales abroad brought in £320-million ($896-million), 12½% of all export income.

Over the past few weeks, British auto men have been taking a long look at their all-important overseas markets. There was good and bad news.

On the plus side were May export figures showing 32,145 cars shipped abroad, up from a 30,078 monthly average last year, despite the restrictions on imports ordered by some of Britain's best Commonwealth customers. The U.S. market was looking up, too, with 3,055 cars arriving in May, nearly double last May's total.

On the red side of the ledger, Britons found more competition, especially from Germany's Volkswagen. And they worried that steel shortages and more import cuts by customers might further pare sales.

• **Battle Plan**—On balance, British motor manufacturers are hoping to come within 10% of last year's sales, if not pass them. And they're drawing up a plan of battle that includes:

• Price cuts: Last week, Ford Motor Co. Ltd. of Britain announced cuts of 10% on all autos, 7½% on trucks, 5% on tractors. Though publicly challenged by Ford managing director Sir Patrick Hennessy, other carmakers haven't yet followed suit.

• Incentive: A new scheme which will give more steel (it's still allocated in Britain) to the manufacturers with the best export records has been agreed to. And there's added incentive in a new deal for domestic car sales. Instead of a rigid quota for the home market, a flexible export-domestic ratio of four-to-one has been set up. If you can sell more abroad, you can sell more at home.

• Salesmanship: Secret discussions among auto men have involved revamped sales and dealer organizations, possibly joint models marketed by two or more manufacturers.

Import curbs cut into easy sterling markets like Australia. And Ford found the scope for expansion in other areas limited by price. Its chief competitor in Western Europe is the bug-like Volkswagen, rolling off German assembly lines at a 500-a-day clip. Now, thanks to the price shave, British Ford's export manager is confident that the two new Ford models—the Consul and the Zephyr (above)—can outsell the Germans in key markets like Belgium, the Netherlands, and Scandinavia.

British Ford will have to go some to boost its share of the U.S. and Canadian foreign car market. By the time the cars arrive in the U.S., the price cuts won't mean much more than a 5% saving. And though British Ford has "done well" with the Consul at $1,665, according to Ralph Horgan, Inc., eastern distributor, it's lagging behind Austin Motor Co. Ltd. and Rootes

Announcing a new Burroughs sales policy—

Now you can buy Burroughs adding machines and cash registering machines from your local dealer

as well as from your Burroughs representative

Burroughs now, for the first time, will make its adding machines and cash registering machines available through dealers in communities in all parts of the United States and Canada—as well as through its own sales offices and representatives.

This new policy stems directly from the rapidly expanding needs of business. Today more people are using business machines—and more businessmen need figuring machines—than ever before. Burroughs is answering this challenge with the highest production rate of precision-built products in its history.

To make this greatly increased production conveniently available to more people, in more places, Burroughs is supplementing its own selling organization by appointing a coast-to-coast network of carefully selected dealers.

The extensive line of hand and electric models sold by dealers will carry the standard Burroughs guarantee—and the Burroughs factory-trained service organization will be available to maintain these machines on the same basis as those sold through Burroughs branches.

Wherever you are, you'll find it easier than ever to do business with Burroughs. So whatever your adding or cash registering needs, look first at a Burroughs. Simply call your nearest Burroughs office, or see your local Burroughs dealer.

BURROUGHS ADDING MACHINE COMPANY, DETROIT 32, MICHIGAN

WHEREVER THERE'S BUSINESS THERE'S **Burroughs**

Motors. Right now, the racy, knee-high MG sportscar, made by an Austin affiliate, is leading the pack with 1,713 new registrations during the first four months of the year. Austin, pushing its new Somerset, is running at 1,570; Rootes' Hillman Minx is running at 1,264, and British Fords (all models lumped), are at 1,146.

• **Advantages**—Meanwhile, the British car fraternity in general is feeling more buoyant about the U.S. market. It believes that Americans are becoming educated to the economic and traffic benefits of the small car; Britons feel they fared a lot better than cutback domestic manufacturers during the slow spring market. British Ford figures its sales are running 25% ahead of last year; Rootes and Austin report the same. And while there may be some price cuts coming for Rootes and Austin cars, neither seem to feel that the competitive situation urgently requires them.

Canada looks bright, too. Austin is having big success with its Somerset, complains that only steel rationing prevents sales of a lot more cars. It was just last fall that British autos had to be sent home from Canada, because credit restrictions, since lifted, kept Canadians out of dealer showrooms.

Ronson-Style Lighters With Oriental Accent

"Fine imported materials, precision movement, assembled in the United States."

With this sales pitch, the Hilton Lite Corp. of San Francisco will introduce a new Japanese cigarette lighter into department stores throughout the nation at the end of this month. Parts for the new product will be manufactured in Japanese factories. The lighters will then be assembled in San Francisco by some 40 Nisei, now being trained by two Japanese experts.

The man behind this new enterprise is George C. Wagner, a San Francisco importer who used to bring finished lighters into the U.S. from Japan. He figures the new assembly setup will save time and money, besides skirting certain import restrictions.

• **Big Demand**—The lighter will come in three models ranging in price from $1.95 to $2.95. Each will be similar in style to more expensive Ronson lighters, patents on which have recently run out. They will be guaranteed for 20 years—if your lighter goes haywire, Hilton will fix it, or if necessary replace it, for a 75¢ service charge.

The new company, chartered on May 28, claims that it is having no trouble getting orders. In fact, Marshall B. Stark, president, says that Hilton doesn't have enough lighters to meet the demand. It could assemble more but it can't get enough parts from Japan. Nevertheless, he boasts that 600,000 will be on the market by the end of September.

BUSINESS ABROAD BRIEFS

Worried watchmakers: A number of Swiss watchmakers are up in arms over the threatened rise in the United States tariff on watch movements (BW—Jun. 21'52,p30). They have asked the Swiss government for help. There's talk in Switzerland of retaliation; it could come in the form of prohibitive duties on U.S. exports to Switzerland.

•

Bendix Aviation has set up a wholly owned subsidiary, Bendix do Brasil, Ltda., at Sao Paulo. It will handle sales and field engineering for the company's aviation, automotive, railroad, marine, industrial products.

•

Dollar shortage is forcing Remington-Rand to move one of its five manufacturing units at Hamilton, Ont., to Scotland. Rem-Rand moved into Canada in 1935, partly to take advantage of the tariff preference Canada gets in the Commonwealth market. Now Rem-Rand finds the dollar shortage in the sterling area makes it tough for the Canadian firm to do business with other Commonwealth nations.

•

New plant in Mexico is opened by Brown and Bigelow, St. Paul manufacturer of advertising specialties. The $250,000 plant is the company's first foreign manufacturing unit, though it has assembly plants in Colombia and Brazil.

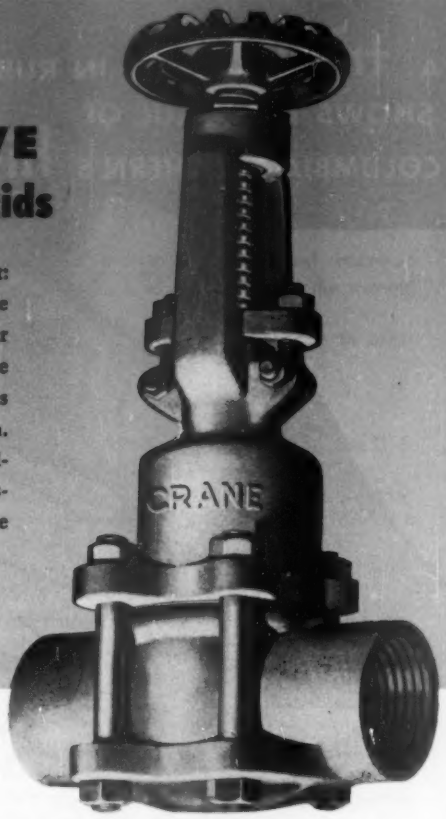
•

Dead Sea Works, Ltd., of Israel, has been set up to take over the British-owned potash plant at the southern end of the Dead Sea. Israeli government will control 51% of the voting shares in the new company. The former owners, Palestine Potash, Ltd., will get 16%, with 33% to be sold on the open market.

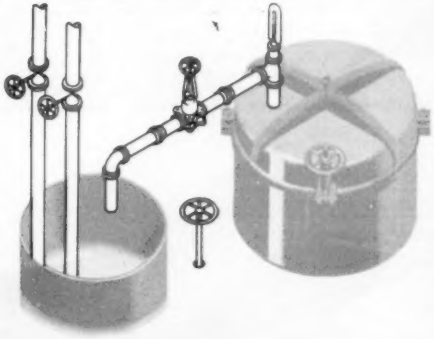
The Pictures—Cover by Frank Riemer. Cal-Pictures—78; Chrysler Corp.—48; Bill Clinkscales—66 (top ctr.); Lynn Crawford—142; Bob Isear—27, 28, 29, 72; Frank Jones—90 (top); Edith Miller—57, 58; Gerry Moran—44; Ed Nano—154, 155; National Lead Co.—66 (bot. lt.); Frank Riemer—104, 105, 106; United Press—42, 134.

This CRANE VALVE tamed troublesome acids

This case demonstrates an old fact: Valve costs in handling any fluid are related directly to valve suitability for the service. Here, a highly corrosive acid process played havoc with various valves until tamed with a Crane design. Proper selection plus dependable quality made this valve performance possible. You get both in the complete Crane line.



Read these Facts of the Case!



Where Installed: In a yarn dye works, in piping to a package dyeing machine. *Fluids handled:* Various acid dye solutions at temperatures from 50 to 210 degrees F.

Trouble Encountered: Previously tried valves and cocks couldn't stand the combined effects of frequent operation, throttling, and the severely corrosive acids. They leaked badly; wouldn't operate. They needed constant repair, lasting 1 to 2 months at best.

Solution and Result: Replacement made with Crane 18-8 Mo Stainless Steel Plug Gate Valve. After more than 3 years' service, customer reports: No leakage trouble . . . no sign of corrosion . . . always easy to operate . . . no valve maintenance expense.

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VALVES • FITTINGS • PIPE • PLUMBING • HEATING

A tricky twist IN RUBBER SHOWS THE VALUE OF COLUMBIA-SOUTHERN'S hi-sil®

Faced with the problem of developing a light-grey rubber compound to meet an extremely exacting usage, the General Tire & Rubber Company found that only one non-black reinforcing pigment would meet requirements.

That pigment is Hi-Sil, product of Columbia-Southern research.

General's problem was presented by Bendix Home Appliances, in connection with the revolutionary design of its Economat automatic washer. The heart of this washer is the "Metexaloy Wondertub"—a flexible rubber tub which is collapsed by vacuum pressure, to drain the dirty wash water and then, following the final rinse, to squeeze the water gently and firmly from the clothes.

Obviously, the rubber compound must possess great tensile strength, resilience and resistance to creasing, scuffing and abrasion in order to stand up under this twisting, squeezing action. And in production, which involves one of the trickiest of all rubber molding jobs, the compound must have unusually high tear resistance. Only Hi-Sil, among all non-black pigments, imparted these characteristics to the rubber.

The successful performance of the Bendix Economat is a tribute to the ingeniousness of its designers and to the skills of General Tire & Rubber in producing rubber products to meet special requirements. Columbia-Southern is proud that the unique properties of Hi-Sil have thus again proved their value in helping to solve difficult rubber compounding jobs.

MULTI-MILLION DOLLAR PIGMENTS EXPANSION

Greatly increased production of Hi-Sil and its companion pigments, Silene EF and Calcene TM, is helping to meet the demand for these exclusive Columbia-Southern products. Expansion includes new laboratories for increased research and development.

In addition to their value in compounding white and colored rubber (both natural and synthetic), these Columbia-Southern pigments have shown excellent potentials in the manufacture of many other products, including vinyl plastics, paint, inks and paper, insecticides and herbicides.

These pigments are among numerous vital chemicals produced by Columbia-Southern in conjunction with its major production of chlorine, caustic soda, soda ash and other basic alkalies.

COLUMBIA-SOUTHERN CHEMICAL CORPORATION

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Chancellor Butler has a program for putting the British pound on a sounder basis. Early next year he wants to:

- Unpeg the pound from the current rate of $2.80. Fluctuations in the free rate would be smoothed out by an equalization fund, which Butler hopes to have backed by the International Monetary Fund and the U. S. Federal Reserve.
- Allow convertibility of pounds into dollars when held outside the sterling area. (This would be only for sterling accounts arising from current transactions.)
- Keep the present apparatus of exchange control and maintain inconvertibility of pounds held by individuals and firms within the sterling area.
- Block some of the existing sterling balances held in London by other countries.

•

Butler's program may never come off.

For one thing, his plan for convertibility depends on whether the U. S. decides to put a stabilization fund behind sterling.

For another, heavy pressure on the pound might develop this summer. That could force Butler to unpeg sterling as an emergency move (not as a planned move)—to keep London's gold reserves from draining away.

But British Treasury officials think they can hold out until next year. New exchange controls are making it tougher to sell sterling short.

And Butler is prepared to use more import cuts plus stiffer credit controls at home to hold things steady.

•

What the Churchill government wants is time for deflationary policies to work a cure right through the Commonwealth.

It will make a big difference if the pound can be freed when trade is in balance. Then the demand for sterling will roughly equal the supply, and speculating in pounds will be moderate. The pressure could be absorbed by London's gold reserves plus the proposed stabilization fund.

In short, London wants, if it can, to free the pound from strength and not from weakness.

•

Britain's financial position would be a lot stronger next year if it could shed some of its military load in the Middle East.

In fact, Foreign Minister Eden warned Secretary Acheson recently that Britain couldn't carry on in that area much longer.

The British still have 50,000 troops in Egypt, 9,000 in Iraq, and 3,000 in Greece. They are still spending $20-million a year on Jordan's Arab Legion.

London wants the U. S. to take over most of these commitments, either directly or within the framework of a Middle East command. But Acheson told Eden that this was out, at least until after the elections. So the British will have to hang on until then.

•

It's doubtful, in any case, if a deal could be made with Cairo until after the fall elections in Egypt. The new Sirry Pasha regime is nothing but a caretaker government.

A Wafd victory at the polls looks almost certain. And that could mean a return of a violent nationalist policy.

Probably Britain's only chance is to work behind the scenes now for a deal with the more moderate Wafd leaders.

•

Washington was caught off base this week when Mossadegh clung to power in Iran.

The State Dept. had been counting on the Shah to force Mossadegh's retirement. The Shah had hinted he was ready to do this.

What's more, the Iranian Senate was set last week to vote down the old Premier. Then the Shah asked the Senate to re-elect him. Reason: The Shah couldn't find a reliable successor to Mossadegh, and he was unwilling to take over himself.

So the Iranian oil crisis may go on indefinitely. Mossadegh is expected to meet the public payroll by reducing the gold backing of Iran's currency.

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Don't overrate the split in the Gaulist party in France. It won't help Premier Pinay much.

The 28 dissident Gaulists aren't joining Pinay's coalition. They are forming their own party, plan to take an independent line.

True, Pinay can count on their support for his domestic policy. He has had that since he formed his government last February.

But on foreign policy, the new party is closer to de Gaulle. So they may vote against Pinay when the European Army Treaty comes before the National Assembly.

•

Pinay is safely in office until October, when the Assembly reconvenes. But his government has a tough summer ahead of it.

Pinay's stabilization program has struck three snags:

(1) Tighter credit control, import curbs, and the psychological effect of falling prices have brought on a minor business slump. So some of Pinay's business supporters have started to squawk.

(2) Because of the slump in business, government revenues have started to drop. This threatens to touch off a budget deficit again.

(3) During his first four months in office, Pinay managed to cut prices above 5% by calling for voluntary reductions. Now the Premier is finding it tough to get prices down any further.

•

The election of Adolfo Ruiz Cortines as Mexico's new president is good news for the U. S. It means that the Aleman policies will continue for another six years.

Cortines isn't the colorful figure that Aleman was. But he is regarded as dependable and thoroughly honest. Like Aleman he's committed to a program of industrialization, higher living standards, and a fair deal for business.

•

Washington isn't optimistic about the new secret truce talks in Korea.

There's no concrete evidence yet that the Communists are ready for a deal on the prisoner issue.

True, recent gagging of the Red propaganda machine is a good sign. And Prime Minister Nehru of India has told the U. S. again that he thinks the Chinese want a truce.

But Washington has heard this theme before, won't believe it's true until the Communists sign on the dotted line.

Remember when...

Refrigeration meant a cake of ice?

Perhaps those were the "good old days" . . . but who would trade the refrigerator found in today's average American home for an old-fashioned ice-box?

Electrical home appliances have eliminated countless chores for modern housewives. Today's refrigerator, for example, requires practically no attention—because it can be powered by an Emerson-Electric hermetic motor. True to a 62-year tradition of precision manufacture, each Emerson-Electric hermetic motor is carefully built, tested, and sealed for shipment, under accurately controlled atmospheric conditions.

In addition to hermetic motors in horsepower ratings from ⅛ to 15, Emerson-Electric offers a complete line of standard motors from 1/20 to 5 h.p. for use on equipment for the home, the farm, in business and industry. Your inquiry is invited. THE EMERSON ELECTRIC MFG. CO., St. Louis 21, Mo.

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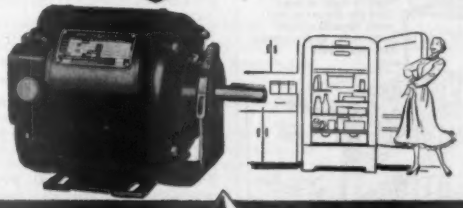

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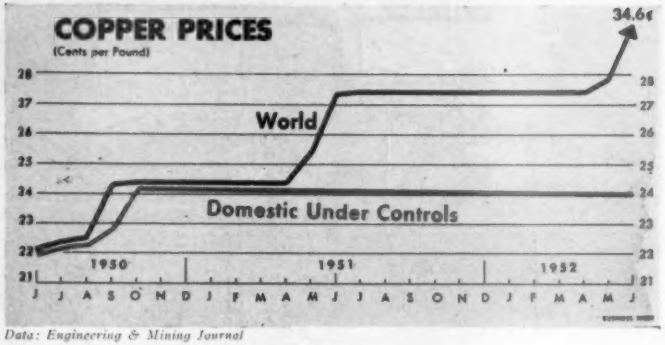
LEADERS IN THE FAN AND MOTOR INDUSTRY SINCE 1890

See Clues on page 162

COMMODITIES



Data: Engineering & Mining Journal

YOU CAN'T BLAME SUPPLY FOR . . .

The Trouble With Copper

The copper shortage which had defense mobilizers worried sick last year is no longer critical. But copper producers, users, and government officials are keeping a wary eye on what could become their new headache—the price situation.

On the supply side things look really bright. Allocations of copper are at their peak—133,333 tons for July. Producers of consumer durable goods got a 10% hike in third-quarter copper allotments. And self-certification priority allowances for small users have been upped from 500 lb. to 10,000 lb.

• **Imports**—The thing that shed this new bright light on the copper picture is an anticipated step-up in imports. The reason: a new two-price scheme (one domestic, one foreign price) which went into effect last week. Here's what it looks like.

U.S. brass mills, wire mills, and foundries—the people who buy refined copper—will buy 60% of their monthly allocations from U.S. sources at the 24½¢ per lb. domestic ceiling price. If they want the other 40% they must buy it from foreign producers at whatever the world market price happens to be; average for June was 34.6¢ a lb. f.o.b. New York (chart, above).

• **Pass It Along**—The Office of Price Stabilization is allowing copper buyers to add to the ceiling prices of their products 80% of the increased cost. OPS last week O.K.'d across-the-board price boosts averaging 3.84¢ per lb. for brass mill and wire mill products. Presumably, foundry products will get about the same increase. It isn't likely, however, that manufacturers who use the semifinished copper products will be allowed to pass on their new costs.

As a result, fabricators can now raise their prices whether they buy the higher-priced copper or not. But a fabricator who does not use his foreign allotment, naturally, will have a tremendous competitive advantage.

• **Not All Happy**—Domestic producers view the new scheme with mixed emotions. Many U.S. producers also use copper in subsidiary fabricating plants. On the 60-domestic, 40-foreign basis, they will have to sell part of their output at 24½c, then replace it for their own mills with foreign copper at a much higher price.

Industry generally agrees on one thing, however. There is just one solution to the price problem: a free world market in copper, which would eventually stabilize itself.

• **Storm Clouds**—The copper skies began to cloud up early this spring. The storm broke in May, when Chile abrogated an agreement to sell us 80% of its copper output (about 30% of the U.S. supply) at a fixed price of 27½¢ a lb.; it halted all its shipments of copper to the U.S. (BW—May10'52,p32). Chile had been selling the remaining 20% of its sizable output—about 400,000 tons a year—on the open market for as high as 55¢. But Chile overestimated the world market. The uncontrolled world price fell almost 20¢ a lb., and Chile asked for more on its U.S. sales (BW—Feb.23'52,p184).

• **Compromise**—Washington had a ticklish problem: how to meet the demand without blowing the lid off copper prices. Materials-control officials—Defense Production Administration, Defense Materials Procurement Agency, and NPA—proposed that OPS lift price controls on both domestic

Host De Luxe

The center of American hospitality has always been the kitchen. There we gather around the refrigerator—for an after-school snack, a mid-party tidbit, or a before-bed refresher—much as our ancestors must have gathered around their kitchen hearths.

Because they are so necessary to our way of life, people take refrigerators for granted. They expect them to last many years. They expect them to work constantly without attention, adjustment or repair. That's why you'll find beryllium copper used in the vital parts of *your* refrigerator—in temperature controls, motor controls and switches.

In fact, you will find Berylco beryllium copper used for its reliability, its strength, its ability to outlast ordinary metals wherever machines must function repeatedly without fail. You will find Berylco used in products essential to our defense as well as in consumer goods—in radar, jet engines, guided missiles, gun control devices, aircraft instruments, landing gear controls.

Don't neglect Berylco in *your* plans for the future. Investigate what this versatile alloy can do for you. Call or write any of the offices listed below. You will get the services of a Berylco engineer as anxious to solve your problems as you are.

YOUR DESIGN ENGINEERS *will be interested in how Berylco beryllium copper can be engineered to a specific problem. The booklet "Beryllium Copper at Critical Points" tells the story of one such application. Send for your copy today.*

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OFFICES IN PRINCIPAL CITIES AND TRADE CENTERS

BERYLCO

TOMORROW'S PRODUCTS ARE PLANNED TODAY— WITH BERYLCO BERYLLIUM COPPER

and foreign copper. OPS fought this proposal: It contended that decontrol of a material as basic as copper would wreck the whole price control machinery.

The Office of Defense Mobilization, top-dog in the government's economic controls scheme, came up with the compromise two-price scheme.

• **Wait and See**—The improved supply situation should make it easier to live with the compromise plan. Copper demand has diminished some, may fall even more now that manufacturers can hold on to third-quarter copper allotments, unused because of the steel strike. Furthermore, the International Materials Conference has allocated more copper to the U. S. in July than has been consumed in any month since World War II. August allocations are expected to match July's.

Paul Andrews, acting director of NPA's copper division, believes domestic fabricators will buy their full allowance of foreign copper during July and August to build up inventories, then slow down purchasing. Then, Andrews predicts, foreign prices should begin to fall. Within 60 days, the agency can determine how much longer it will have to allocate copper.

• **Won't Last**—The long-range picture, however, is an entirely different one. The outlook is for another copper shortage within a few years; demand is expected to grow about 45% over the next 25 years.

By 1975, the U. S. may require a half-million more tons each year from domestic mines and imports. The top annual output that U. S. producers can be expected to supply is 800,000 tons—somewhat below 1950 and 1951. That means the U. S. will have to double copper imports by 1975—to about 1-million tons.

• **Hopeful**—The President's Materials Policy Commission isn't discouraged about the outlook. It feels that, "There is a great deal of copper throughout the world that can be profitably produced at cost below [the U. S. 1950] price level. The big question in the minds of many producers," the commission says, "is whether the price will continue to remain profitable and whether governmental policies will be favorable to continued expansion."

Right now, Washington is going all-out to encourage copper expansion in the U. S. and Canada. Defense Materials Procurement Agency has already signed seven commitments-to-purchase and six maintenance-of-production contracts; DPA has granted rapid tax write-off privileges to 12 producers; and Reconstruction Finance Corp. has O.K.'d a $57.1-million loan to the White Pine Copper Co. and is considering a bigger one (over $100-million) to the San Manuel Copper Corp.

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MANAGEMENT MEN ARE TALKING ABOUT....

ABC • ABP

Chemical Week

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TEACHERS gather at Case Tech for a high-powered course in economics . . .

TAKE plenty of notes, as top brains from top colleges and industry lecture.

QUESTIONS fly, as students learn what makes industry's economics tick . . .

CLASSROOM LECTURES are only a part of the course. Lab work is conducted in industrial plants and offices as . . .

Case Tech Takes 50 Professors

Take 50 professors of economics and social science, mix thoroughly for six weeks with a Westinghouse refrigerator—and what do you have?

What Case Institute of Technology in Cleveland hopes to have is a brand-new type of education for educators. The 50 educators from eastern colleges are taking a special six weeks' course. Faculty is made up of a blue-ribbon panel of economists lecturing on theory—and shirt-sleeved businessmen actually demonstrating economics in action. In the center of the stage is a Westinghouse refrigerator. During the course of the six weeks, the 50 will follow it and everything that goes into it—from steel mills, through manufacturing to the final sale to a housewife.

The whole six-week show will be paid for by Republic Steel.

• **Concentrated Course**—The 50 have a stiff schedule—five full days each

MORE QUESTIONS come after class. J. C. Talbot, of Republic Steel Corp., is on the griddle.

VISUAL AIDS like diagrams help Talbot explain complicated phases, keep students' interest at a high pitch.

MORE VISUAL AIDS include projector and screen.

DINNER finds discussion still going strong.

Out of Ivory Tower

week. From the time they scurry across the campus to a 9 a.m. class until the last bull session in a dormitory room, they hear little besides talk on economics.

A visiting lecturer-economist (a different one each week) and an authority from some field of economics starts the program three days each week with a two-hour dissertation, followed by a question period.

After lunch, the 50 travel by bus to a laboratory. These labs are business offices and industrial plants, where the group members discuss economic problems with office and plant executives.

One evening each week features a dinner meeting, the guests being business leaders in the Cleveland area. And somehow no one gets away until there's been an impromptu bull session.

• **Remedy**—Case was prompted to set up the course by recent surveys, which show the average college senior has only limited knowledge or understanding of the economic system, of industry and business operations, of the relation of government and business, and the values of certain freedoms. Case's

". . . Smack in the center of the curriculum is a Westinghouse refrigerator . . ."

CASE TECH starts on p. 154

Engineering Administration Dept. realized that the way to tackle the problem was not by working on the students, but with their teachers.

Included in the student group are six collegiate department heads or chairmen of college or university divisions; one dean of a technical school; and 17 men holding professorships. Half the group hold doctors' degrees.

While the program is the complete responsibility of Case Tech, it was made possible by the cooperation of Republic Steel Corp., which picks up the check (BW–Jun.14'52,p110). Republic was interested because of its own course in basic economics which it gives its supervisory forces (BW–Sep. 8'51,p88).

General idea Case came to was to provide the opportunity for the visiting students (1) to study contemporary economic problems under six leading economic thinkers; (2) to use Cleveland as a laboratory for the first-hand observation of commercial and industrial systems; and (3) to demonstrate to the teachers the techniques employed by private industry in teaching economics to its employees.

• **Blue Ribbon Staff**—As visiting lecturers, Case rounded up Fritz Machlup of Johns Hopkins University, for three lectures on international economics, money, and banking, and John M. Clark of Columbia University, for a lecture series on economic theory in the industrial function. Frank H. Knight of the University of Chicago, is coming to talk on economic theory and public policy; Arthur F. Burns of Columbia University, to lecture on economic research, aspects of economic growth and fluctuations; and William A. Paton of the University of Michigan, for lectures on contemporary problems in costs, prices, and investments. Ewan Clague, Commissioner of Labor Statistics of the U. S. Dept. of Labor, completes the list.

• **Life-Size Lab**—The laboratory section of the program involves in-plant study of how economic principles affect industry and business. It gives the teachers a chance to discuss economic problems with executives who have to live with them—and figure out the answers.

Smack in the center of the curriculum is a Westinghouse refrigerator. By the time the six-weeks' program ends Aug. 1, the class will have followed and traced all the economic factors related to the refrigerator, in reverse order, from the consumer to the basic raw material. Students will get an explanation from each business or industrial concern involved of the principal economic problems it is faced with.

The class started with retailing—how it is done by an independent appliance company and by a department store. The course goes on back up to the manufacturing company, its distributor, railroad and trucking transport, equipment makers and parts makers. It goes behind them to the steel maker who made the steel for the refrigerator, the advertising agency which promoted its sale, the electric company which provided the power, and the financial companies that had a finger in the pie.

• **Third Degree**—Cleveland businessmen take a big part. Executives of each of 17 Cleveland companies had a barrage of questions hurled at them. The students wanted the details of their operating problems.

Each company executive was briefed in advance to come armed with information on these particular points: how his particular job fits into the company operations, principal operating problems, the company's responsibilities in the general economic picture, and how it discharges those responsibilities. Once these points were out of the way, the teachers got down to specifics.

At Glenmont Home Appliance Co., owner Glen Le-Prevost threw the class for a loop when he declared that the net price shown on an appliance tag was only the start of customer bargaining. He went on to explain that, because of the condition of the home appliance business, it was not unusual for the dealer to end up with but 15% left of his original 40% markup. He gave frank answers to questions as to why he operated as sole owner rather than as a corporation; what kind of deals he makes with manufacturers; where he borrows and what interest he pays; and what the source of his capital was. He was asked if the fair trade law aids the retailer; how strong is tie-in sales pressure from distributors; what is most effective advertising media; how does he meet competition that is able to undersell him—such as mail order houses.

In watching these demonstrations, the professors got a refresher course. But they didn't take too easily to being students. Most difficult part of the program was to keep the teachers reminded that they were supposed to be learning and were to forget for a while that they were a collection of highly trained professors.

• **Wide Interest**—Case Tech is the first institution to put such a program on such a comprehensive scale. But it may not be the last. Representatives from at least five big industrial companies are watching the results—and may follow Republic Steel's lead next year.

it doesn't look like a turret lathe, BUT...

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REGULATION

What Congress Did About Controls:

PRICES:	Killed ceilings on fruits and vegetables.
WAGES:	Stripped Wage Stabilization Board of power to hear disputes.
MATERIALS:	Retained present allocation system.
CONSUMER Credit:	Ended Federal Reserve Board's authority to revive Regulation W.
HOUSING Credit:	Retained restrictions but with mandatory decontrol formula.
RENT:	Ceilings off Sept. 30 in non-defense areas except by local request; Apr. 30 in defense areas.

Controls Shaved, Not Axed

Congress did less violence to stabilization than the controllers had feared. Here's how the various angles of controls shape up.

The new controls bill that Congress rammed through last week isn't a popular law by anybody's definition. President Truman doesn't like it, as he said when he signed it. Business doesn't like it. Neither does labor.

But the fact is that the new law is going to make surprisingly little difference in the system of controls that is now in effect. Top control officials aren't saying much publicly, but privately they admit they are pretty well satisfied.

• **Eased, Not Killed**—For a few steamy hours on Capitol Hill, it looked as if Congress might disembowel the basic Defense Production Act of 1950. That would have brought a round of resignations by Truman's top control team. But stabilizer Roger Putnam and price administrator Ellis Arnall—after reading the new amendments—are still on the job. That's the tip-off.

The rules were made a little easier to live with, and Herlong and Capehart protection was expanded. But it's still a lot stronger bill than the controllers thought they'd get.

For business, this means the climate of controls will be about the same as in the past year. Milder maybe, but essentially unchanged.

• **Business Rebuffed**—In the showdown, Congress backed away from most of the changes advocated by business groups. Examples:

• The Talle amendment, which would have ended all price ceilings except those on allocated materials, was voted by the House, then killed. The same thing happened to the Cole amendment, which would have forced the Office of Price Stabilization to apply the Herlong retail markup formula to individual businesses.

• Service businesses, such as cold storage locker plants, lost out in their effort to get in under the Herlong amendment.

• Wholesalers and retailers were denied the benefits of the Capehart amendment.

• **Less Paperwork**—Business got one break, though. The final bill lightened their load of paperwork by deciding that no reports had to be made to OPS

TURNING IDEA-CHEMICALS INTO DOLLARS

They took the stiffness out of starch to make washable suits more comfortable

Washable summer suits once had to be starched stiff as a board to stay pressed. Then one starch maker found he could produce a far better laundry finishing agent by chemically combining starch with Du Pont Crystal Urea. This new product, called starch carbamate, gives an elegant crispness, drape and finish to washable suits, doesn't impart stiffness . . . and doesn't close the air spaces between the fibers, but lets the garment "breathe" and remain cool. New starch carbamate is also finding applications in other fields as an ingredient in water-base wall paints . . . and as a binder for glass fibers in the molding operation.

This is an example of the many product and process improvements made possible by the versatility of Du Pont Crystal Urea. Because of its high chemical reactivity, it's also used in the synthesis of dyes and pharmaceuticals. Because of its hygroscopic properties, it's used in the treatment of green lumber to promote even drying, and as a softener for paper and cellulose. It's important, too, in cosmetics, explosives, dentifrices, plastics, adhesives and fertilizers.

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". . . Truman put the finger on Congress as the culprit if prices go up . . ."

CONTROLS starts on p. 158

on goods or services selling below ceiling.

All the seller has to do now is certify that his price is below the legal limit. Of course, OPS still has the right to check on the validity of such certifications, so businesses will go on keeping some kind of record as a matter of self-defense.

• **Truman and the Bill**—President Truman's message attacking the amendments was mild compared with his vehemence a year ago when the Capehart and Herlong provisions were adopted. He merely put the finger on Congress as the culprit if prices go up between now and election and if insufficient money was appropriated for enforcement. The latter comment was a crack at the House for chopping funds for the stabilization agencies down from $107-million to $57-million, leaving the Senate to wrestle with restoring most of the cut in its closing hours.

Here's a rundown on the new law:

Price controls. OPS is still studying the 25 amendments relating to prices. So far, nothing has turned up that should allow important price rises except the amendment taking fresh and processed fruits and vegetables out from under ceilings.

This provision was the chief target for Truman, who warned that prices would go up on one-fifth of the items the housewife buys for the dinner table. Trade sources argue, on the other hand, that 88% of canned and frozen fruits and vegetables already sell at less than ceiling prices. OPS insists this is true of only 35% of the items.

There's a question, too, about what's covered. Is canned hash eligible because it contains potatoes? Is coffee a fruit or vegetable?

The amendment forcing OPS to yield where prices are fixed by state laws may lead to increases in milk prices in 17 states with milk-marketing laws, in cigarettes in some states, perhaps in liquor.

Effect of the Capehart and Herlong amendments was broadened. In one case, OPS may even have to lower ceilings, though lawyers aren't sure yet. This is the case of items under ceilings at the farm level and allowed-normal-markups at processor, wholesaler, and retailer levels. If farm prices drop, according to the amendment, other price ceilings should also be lowered. That assures the farmer of a constant share of the consumer's food dollar, also forces processors and distributors

Fishermen used to have a devil of a time hooking fish like this in the hot summer time.

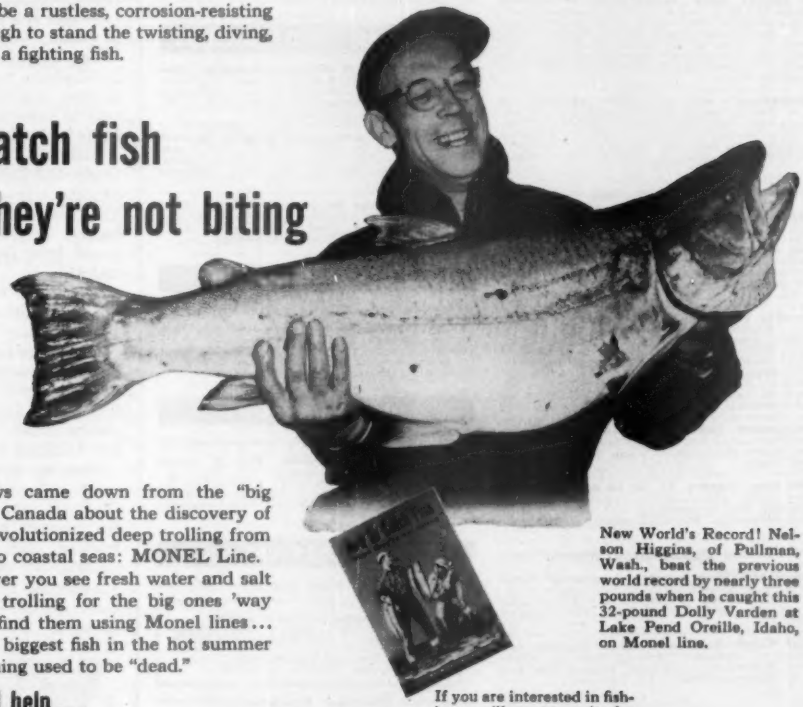
Trouble was that big fish like to stay way down on the cool lake bottom. Ordinary trolling line just wouldn't go down there.

All sorts of gadgets were tried. Trick sinkers and attachments were devised to get the hook down where the fish could grab it. The lines themselves were cored with heavy substances to make them sink.

Finally, *metal* lines were given a trial. They went down all right. But other difficulties came up. They were too heavy. Too thick, too awkward altogether. To be flexible enough for easy handling, the wire line had to be light and fine. To be fine, the metal had to be very strong.

It also had to be a rustless, corrosion-resisting metal . . . and tough to stand the twisting, diving, leaping yanks of a fighting fish.

How to catch fish when they're not biting



New World's Record! Nelson Higgins, of Pullman, Wash., beat the previous world record by nearly three pounds when he caught this 32-pound Dolly Varden at Lake Pend Oreille, Idaho, on Monel line.

Then the news came down from the "big muskie" lakes of Canada about the discovery of a line that has revolutionized deep trolling from mountain lakes to coastal seas: MONEL Line.

Today, wherever you see fresh water and salt water fishermen trolling for the big ones 'way down deep, you find them using Monel lines . . . and catching the biggest fish in the hot summer months when fishing used to be "dead."

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"... The Fed lost a gamble when Congress wiped out Regulation W ..."

CONTROLS starts on p. 158

to pass along savings brought about by any drop in farm prices.

Food processors are brought under the Herlong amendment, which guarantees a pre-Korea markup, and the Capehart amendment, which fixes ceilings at the highest pre-Korea prices plus cost increases up to July 26, 1951. OPS was directed to approve dollar-and-cents markups where they were customarily used instead of percentages.

Wages and salaries. The big switch, of course, was in the function of the Wage Stabilization Board (BW—Jun. 21'52,p151), taking it out of the field of labor disputes. It also modified controls in some cases (page 133) on both wages and salaries.

Materials. National Production Authority and Defense Production Administration retained their present powers. The Senate voted down a House bill, backed by some auto makers, that would have required NPA to allocate materials on a pre-Korea basis. NPA will continue to base its allotments on the competitive situation as of July, 1951.

Consumer credit. Early in May, the Federal Reserve suspended rules for downpayments on appliances, in the hope that Congress would leave its powers intact. The Fed lost the gamble: Congress killed Regulation W.

Housing credit. Regulation X survived—at least for several more months. The new rule: The President shall relax controls only when estimates of housing starts for three consecutive months fall below an annual rate of 1.2-million. In such case, the President can't require more than a 5% downpayment. But he can restore controls if the rate of starts goes up again to the 1.2-million pace.

Federal Reserve and the Housing & Home Finance Agency are now working out the seasonal variations to weight the rate of starts. After the formula has been written, there'll have to be a wait of at least three months before relaxation can be considered. So far, starts have run a bit under last year's 1.1-million rate. It looks like a hairline decision, depending a lot on how the seasonal formula is pitched.

Rents. According to President Truman, Congress opened up the possibility of rent increases for 6-million families after Sept. 1. The law says that rent ceilings are to remain in effect beyond that date only for defense areas and in other areas only where local authorities request them.

ADVERTISERS IN THIS ISSUE

Business Week—July 12, 1952

Don't Delay—Decontrol

President Truman—with no small reluctance—signed the new economic controls act last week.

It was the product of long haggling in Congress. Like many another compromise, it left few customers happy. For the businessmen who must live with it, in particular, it will continue to create many a headache.

What was clearly needed was a bill that would (1) maintain a small group of selective controls and (2) provide standby authority for the broad controls that might be needed in an emergency.

A few selective controls, such as allocations for metals, will be needed for perhaps another year. If it should happen, another outbreak on the international front would bring with it the need for broad controls—on prices and consumer credit, for example. But, as the economic situation stands now, most of these controls could be put on ice.

The bill finally passed fell short of doing this. How you will have to live with it is told in detail on page 158. But here we comment on the major provisions:

Materials controls, as extended, are not much to be concerned about. Cobalt, tungsten, other metals may be short for a long time to come. Controls on steel may be extended for months as a result of the strike. Moreover, the mechanics of rationing metals are complicated. Once they are knocked down, it would take many months to rebuild them in another emergency.

Rent controls—most of which will die Sept. 30—are probably overdue for the ashcan. Some of the European countries show the blight that comes with continuing controls. Their private construction industries have withered. Their people's homes are run down; little new building is done.

Price and wage controls go on together until next Apr. 30. And here's where Congress created headaches for business. The House, winding up in a hectic rush, voted to practically kill price controls. But the Senate—and some last-minute pressure on Representatives—stopped that.

A good many businessmen and responsible business organizations feel that price controls are ready for the ax. The Committee for Economic Development, for example, recommended that: ". . . price and wage provisions of the Defense Production Act should be extended only to Dec. 31, 1952, and that a vigorous policy of selective decontrol should be adopted at once."

To guard against another Korea-type inflation, the CED believes that Congress should authorize the President—in the event of another international crisis—to impose a 90-day freeze of prices and wages.

As it is now, we have no guarantee that there will be "a vigorous policy of decontrol." And controls will go limping along well into next year.

There's a big difference between keeping standby authorization for controls in the law and keeping a gigantic agency, such as the Economic Stabilization Agency with its satellites and regional offices, standing by more or less idle.

And there's a real question as to whether a standby agency can be effective at all in times like this. The economy—except for a handful of items that are in short supply and are allocated—is operating competitively. No one feels the urgency of war or an emergency—which means there's little real urge to cooperate with the controllers.

Certainly it seems that in the steel dispute—and perhaps generally over the last year—controls have been more harassing than helpful.

Adding all this up, we feel that Congress has taken a step in the right direction—toward decontrol. But we wish it had been a lot longer step. And—in the interests of both business and effective government—it should be followed up by the Administration with a continuing, hard-hitting program for decontrol of specific products.

Bureaucracy, We Love You

From the Dow-Jones news ticker, July 1, 1952:

8:30 a.m.—"Weirton Steel Co. has asked the government to authorize steel price increases averaging $5.50 a ton . . .

10:45 a.m.—"Top price officials declared they have not yet received an application from Weirton Steel for a price increase . . .

12:15 p.m.—"Price boss Ellis Arnall said he has not yet received Weirton Steel Co.'s application . . . but emphasized that the firm is 'entitled to Capehart, and that is all' . . . Meanwhile, price agency officials were searching for the application . . . . 'It must still be in the mail,' was the conclusion of one price fixer.

12:30 p.m.—"A National Steel Co. spokesman today said three copies of the price increase application were personally delivered to Economic Stabilizer Roger Putnam's office yesterday morning . . .

1:30 p.m.—"A spokesman for Economic Stabilizer Roger Putnam said the ESA chief has never seen Weirton Steel Co.'s request for a $5.50-per-ton increase in price ceilings.

3:15 p.m.—"Weirton Steel's petition for a price increase has been discovered at the Economic Stabilization Agency.

"A spokesman for Economic Stabilizer Putnam said the petition, on arrival yesterday, was routed to 'Correspondence.' Then it was sent to the Chief Economist for study, and he thought Mr. Putnam had already seen it so he said nothing about it.

He added, 'We are all kicking ourselves up and down that such a thing could happen.'"

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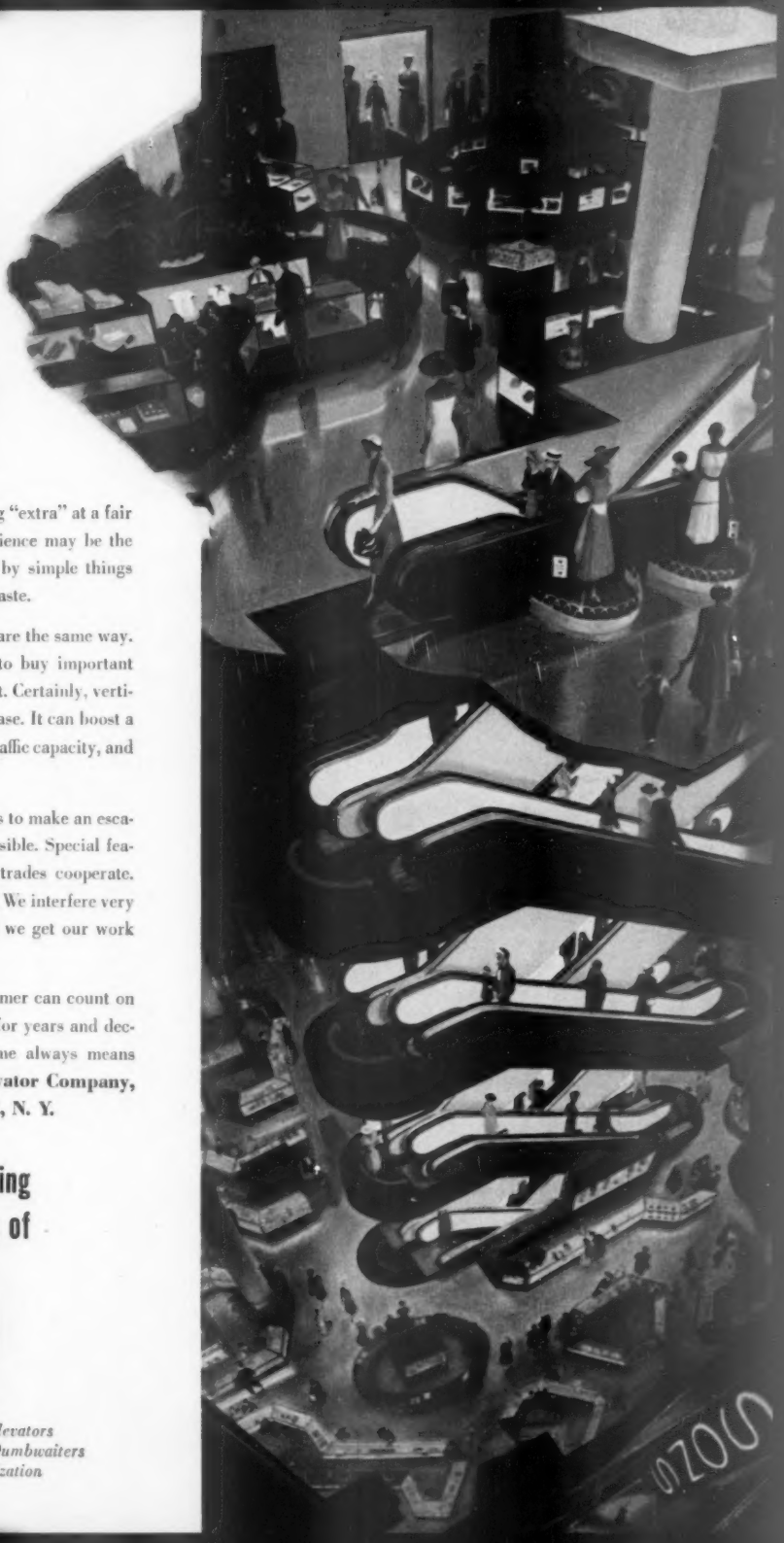

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